

Hello Junior and Seniors!

This packet includes work that is intended for you to complete at home should we have the need, due to COVID-19 (Coronavirus 2019). There are 4 subjects that need to be completed: Math, Literacy, Reflection/Prayer, and Movement.

Additional Information:

- Grading: You will receive points for completing these assignments. **You need to demonstrate that you put effort and time into this packet in order to pass for the semester.**
- Timeline: Dedicate at least 1-2 hours per day to work on all four subjects
- Due date: When you return to school
- Communication: Email your teachers, Ms. Turilli, or Mr. Paradise with any questions.

Assignments Each Day:

- **GET CAUGHT UP** on missing work or revisions! This should be a priority!
- **Literacy Instructions:** There are several short stories that need to be read. As always, you need to read, annotate/write notes about the topics/themes of each short story. Spend at least 30 minutes per day on this subject.
- **Math Instructions:** Use the examples provided in each section of the packet to help you review the rules of polynomials. Spend at least 30 minutes per day on this subject.

Timeline	Description of Assignment	Topic/Theme
Week 1	<u>Literacy:</u> Read BOTH <ol style="list-style-type: none">1. “On Discovery” by Maxine Hong Kingston2. “The Devoted Friend” or “El amigo fiel” by Oscar Wilde	Social/cultural expectations
	<u>Literacy:</u> “The Ones Who Walk Away from Omelas” by Ursula K. Le Guin <ul style="list-style-type: none">• Watch a dystopian movie and write a reflection about the similarities and differences between that society and our own.	Dystopian characteristics
	<u>Literacy:</u> “Girl” by Jamaica Kincaid	Family and relationships
	<u>Literacy:</u> Upfront Article	Social Studies
	<u>Math:</u> Juniors: 10.1 (choose 20 practice problems from p. 571-572) 10.2 (choose 20 practice problems from p. 578-579) Seniors: Continue to work on research/presentation for Capstone	Math/Science
Week 2	<u>Literacy:</u> Complete all three (3) Journal Entries	Cross Roads/Individual Journeys
	<u>Literacy:</u> Upfront Article	Social Studies
	<u>Math:</u> Juniors: 10.4 (choose 20 practice problems from p. 591-592) 10.5 (choose 20 practice problems from p. 599-600) Seniors: Continue to work on research/presentation for Capstone	Math/Science
Extra Time?	Getting ahead: <ul style="list-style-type: none">• (Juniors) Continue to read: <i>The Book Thief</i> and Spanish anchor• (Seniors) Work on Capstone, 1984, or the College process• Optional for both: Use Khan Academy to watch videos/lessons.	

Reflection/Prayer: Complete the daily reflection practices.
Spend at least 10 minutes per day on this subject.

Movement: Complete the daily movement practices.
Spend at least 20 minutes per day on this subject.

On Discovery

By Maxine Hong Kingston

Once upon a time, a man, named Tang Ao, looking for the Gold Mountain, crossed an ocean, and came upon the Land of Women. The women immediately captured him not on guard against ladies. When they asked Tang Ao to come along, he followed; if he had had male companions, he would've winked over his shoulder.

STOP: Follow the instructions below and answer the following question in your notebook:

1. What kind of person does Tang Ao seem to be? (What does he think is going to happen with the women?)

- Highlight parts of the story that you have already read that reveal information about Tang Ao's attitude
- Write the words "Tang Ao's attitude" near those highlighted parts.
- Write your answer to the question on the notebook paper

"We have to prepare you to meet the queen," the women said. They locked him in a canopied apartment equipped with pots of makeup, mirrors, and a woman's clothes. "Let us help you off with your armour and boots," said the women. They slipped his coat off his shoulders, pulled it down his arms, and shackled his wrists behind him. The women who kneeled to take off his shoes chained his ankles together.

A door opened, and he expected to meet his match, but it was only two old women with sewing boxes in their hands. "The less you struggle, the less it'll hurt," one said, squinting a bright eye as she threaded her needle. Two captors sat on him while another held his head. He felt an old woman's dry fingers trace his ear; the long nail on her little finger scraped his neck. "What are you doing?" he asked. "Sewing your lips together," she joked, blackening needles in a candle flame. The ones who sat on him bounced with laughter. But the old women did not sew his lips together. They pulled his earlobes taut and jabbed a needle through each of them. They had to poke and probe before puncturing the layers of skin correctly, the hole in the front of the lobe in line with the one in back, the layers of skin sliding about so. They worked the needle through - a last jerk for the needle's wide eye ("needle's nose" in Chinese). They strung his raw flesh with silk threads; he could feel the fibres.

The women who sat on him turned to direct their attention to his feet. They bent his toes so far backward that his arched foot cracked. The old ladies squeezed each foot and broke many tiny bones along the sides. They gathered his toes, toes over and under one another like a knot of ginger root. Tang Ao wept with pain. As they wound the bandages tight and tighter around his feet, the women sang footbinding songs to distract him: "Use aloe for binding feet and not for scholars."

STOP: Follow the instructions below and answer the following question in your notebook:

2. What do you think the women are doing to him? Why would they do this?

- Highlight parts of the story that you have already read that reveal information about what the women are doing
- Write the words "women's motivation" near those highlighted parts.
- Write your answer to the question on the notebook paper

During the months of a season, they fed him on women's food: the tea was thick with white chrysanthemums and stirred the cool female winds inside his body; chicken wings made his hair shine; vinegar soup improved his womb. They drew the loops of thread through the scabs that grew daily over the holes in his earlobes. One day they inserted gold hoops. Every night they unbound his feet, but his veins had shrunk, and the blood pumping through them hurt so much, he begged to have his feet re-wrapped tight. They forced him to wash his used bandages, which were embroidered with flowers and smelled of rot and cheese. He hung the bandages up to dry, streamers that drooped and draped wall to wall. He felt embarrassed; the wrappings were like underwear, and they were his.

STOP: Follow the instructions below and answer the following question in your notebook:

3. How has Tang Ao changed by this point in the story?

- a. Highlight parts of the story that you have already read that reveal information about how Tang Ao has changed
- b. Write the word “changes” near those highlighted parts.
- c. Write your answer to the question on the notebook paper

One day his attendants changed his gold hoops to jade studs and strapped his feet to shoes that curved like bridges. They plucked out each hair on his face, powdered him white painted his eyebrows like a moth's wings, painted his cheeks and lips red. He served a meal at the queen's court. His hips swayed and his shoulders swivelled because of his shaped feet "She's pretty, don't you agree?" the diners said, smacking their lips at his dainty feet as he bent to put dishes before them.

STOP: Follow the instructions below and answer the following question in your notebook:

4. Nowhere in the story does Tang Ao seem to complain about what is happening to him. Why do you think this is?

- a. Highlight parts of the story that you have already read that reveal information about how Tang Ao feels about what has been done
- b. Write the words “Tang Ao’s feelings” near those highlighted parts.
- c. Write your answer to the question on the notebook paper

In the Women's Land there are no taxes and no wars. Some scholars say that that country was discovered during the reign of Empress Wu (A.D. 694 - 705), and some say earlier 45 than that, A.D. 441, and it was in North America.

STOP: Follow the instructions below and answer the following question in your notebook:

5. The story is called “On Discovery.” What discovery does Tang Ao make?

- a. have already read that reveal information about Tang Ao’s discovery
- b. Write the words “Tang Ao’s discovery” near those highlighted parts.
- c. Write your answer to the question on the notebook paper

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El Amigo Fiel
by Oscar Wilde

Una mañana, la vieja rata de agua sacó la cabeza por su agujero. Tenía unos ojos redondos muy vivarachos y unos tupidos bigotes grises. Su cola parecía un largo elástico negro. Unos patitos nadaban en el estanque semejantes a una bandada de canarios amarillos, y su madre, toda blanca con patas rojas, esforzándose en enseñarles a hundir la cabeza en el agua.

-No podréis ir nunca a la buena sociedad si no aprendéis a meter la cabeza -les decía. Y les enseñaba de nuevo cómo tenían que hacerlo. Pero los patitos no prestaban ninguna atención a sus lecciones. Eran tan jóvenes que no sabían las ventajas que reporta la vida de sociedad.

-¡Qué criaturas más desobedientes! -exclamó la rata de agua- ¡Merecían ahogarse verdaderamente!

-¡No lo quiera Dios! -replicó la pata-. Todo tiene sus comienzos y nunca es demasiada la paciencia de los padres.

-¡Ah! No tengo la menor idea de los sentimientos paternos -dijo la rata de agua- No soy padre de familia. Jamás me he casado, ni he pensado en hacerlo. Indudablemente el amor es una buena cosa a su manera; pero la amistad vale más. Le aseguro que no conozco en el mundo nada más noble o más raro que una fiel amistad.

-Y, dígame, se lo ruego, ¿qué idea se forma usted de los deberes de un amigo fiel? -preguntó un pardillo verde que había escuchado la conversación posado sobre un sauce retorcido.

-Sí, eso es precisamente lo que quisiera yo saber -dijo la pata, y nadando hacia el extremo del estanque, hundió su cabeza en el agua para dar buen ejemplo a sus hijos.

-¡Necia pregunta! -gritó la rata de agua-. ¡Como es natural, entiendo por amigo fiel al que me demuestra fidelidad!

-¿Y qué hará usted en cambio? -dijo la avecilla columpiándose sobre una ramita plateada y moviendo sus alitas.

The Devoted Friend
by Oscar Wilde

One morning the old Water-rat put his head out of his hole. He had bright beady eyes and stiff grey whiskers and his tail was like a long bit of black india-rubber. The little ducks were swimming about in the pond, looking just like a lot of yellow canaries, and their mother, who was pure white with real red legs, was trying to teach them how to stand on their heads in the water.

"You will never be in the best society unless you can stand on your heads," she kept saying to them; and every now and then she showed them how it was done. But the little ducks paid no attention to her. They were so young that they did not know what an advantage it is to be in society at all.

"What disobedient children!" cried the old Water-rat; "they really deserve to be drowned."

"Nothing of the kind," answered the Duck, "every one must make a beginning, and parents cannot be too patient."

"Ah! I know nothing about the feelings of parents," said the Water-rat; "I am not a family man. In fact, I have never been married, and I never intend to be. Love is all very well in its way, but friendship is much higher. Indeed, I know of nothing in the world that is either nobler or rarer than a devoted friendship."

"And what, pray, is your idea of the duties of a devoted friend?" asked a Green Linnet, who was sitting in a willow-tree hard by, and had overheard the conversation.

"Yes, that is just what I want to know," said the Duck; and she swam away to the end of the pond, and stood upon her head, in order to give her children a good example.

"What a silly question!" cried the Water-rat. "I should expect my devoted friend to be devoted to me, of course."

"And what would you do in return?" said the little bird, swinging upon a silver spray, and flapping his tiny wings.

-No le comprendo a usted -respondió la rata de agua.

"I don't understand you," answered the Water-rat.

-Permitidme que les cuente una historia sobre el asunto
-dijo el pardillo.

"Let me tell you a story on the subject," said the Linnet.

-¿Se refiere a mí esa historia? -preguntó la rata de agua- Si es así, la escucharé gustosa, porque a mí me vuelven loca los cuentos.

"Is the story about me?" asked the Water-rat. "If so, I will listen to it, for I am extremely fond of fiction."

-Puede aplicarse a usted -respondió el pardillo. Y abriendo las alas, se posó en la orilla del estanque y contó la historia del amigo fiel.

"It is applicable to you," answered the Linnet; and he flew down, and alighting upon the bank, he told the story of The Devoted Friend.

-Había una vez -empezó el pardillo- un honrado mozo llamado Hans.

"Once upon a time," said the Linnet, "there was an honest little fellow named Hans."

-¿Era un hombre verdaderamente distinguido?
-preguntó la rata de agua.

"Was he very distinguished?" asked the Water-rat.

-No -respondió el pardillo-. No creo que fuese nada distinguido, excepto por su buen corazón y por su redonda cara morena y afable. Vivía en una pobre casita de campo y todos los días trabajaba en su jardín. En toda la comarca no había jardín tan hermoso como el suyo. Crecían en él claveles, alelíos, capselas, saxifragas, así como rosas de Damasco y rosas amarillas, azafranadas, lilas y oro y alelíos rojos y blancos. Y según los meses y por su orden florecían agavanzos y cardaminas, mejoranas y albahacas silvestres, velloritas e iris de Alemania, asfodelos y claveros. Una flor sustituía a otra. Por lo cual había siempre cosas bonitas a la vista y olores agradables que respirar.

"No," answered the Linnet, "I don't think he was distinguished at all, except for his kind heart, and his funny round good-humoured face. He lived in a tiny cottage all by himself, and every day he worked in his garden. In all the country-side there was no garden so lovely as his. Sweet-william grew there, and Gilly-flowers, and Shepherds'-purses, and Fair-maids of France. There were damask Roses, and yellow Roses, lilac Crocuses, and gold, purple Violets and white. Columbine and Ladysmock, Marjoram and Wild Basil, the Cowslip and the Flower-de-luce, the Daffodil and the Clove-Pink bloomed or blossomed in their proper order as the months went by, one flower taking another flower's place, so that there were always beautiful things to look at, and pleasant odours to smell.

El pequeño Hans tenía muchos amigos, pero el más allegado a él era el gran Hugo, el molinero. Realmente, el rico molinero era tan allegado al pequeño Hans, que no visitaba nunca su jardín sin inclinarse sobre los macizos y coger un gran ramo de flores o un buen puñado de lechugas suculentas o sin llenarse los bolsillos de ciruelas y de cerezas, según la estación.

"Little Hans had a great many friends, but the most devoted friend of all was big Hugh the Miller. Indeed, so devoted was the rich Miller to little Hans, that he would never go by his garden without leaning over the wall and plucking a large nosegay, or a handful of sweet herbs, or filling his pockets with plums and cherries if it was the fruit season.

-Los amigos verdaderos lo comparten todo entre sí -acostumbraba decir el molinero. Y el pequeño Hans asentía con la cabeza, sonriente, sintiéndose orgulloso de tener un amigo que pensaba tan noblemente.

"'Real friends should have everything in common,' the Miller used to say, and little Hans nodded and smiled, and felt very proud of having a friend with such noble ideas.

Algunas veces, sin embargo, el vecindario encontraba raro que el rico molinero no diese nunca nada en cambio al pequeño Hans, aunque tuviera cien sacos de

"Sometimes, indeed, the neighbours thought it strange that the rich Miller never gave little Hans anything in return, though he had a hundred sacks of flour stored

harina almacenados en su molino, seis vacas lecheras y un gran número de ganado lanar; pero Hans no se preocupó nunca por semejante cosa. Nada le encantaba tanto como oír las bellas cosas que el molinero acostumbraba decir sobre la solidaridad de los verdaderos amigos.

Así, pues, el pequeño Hans cultivaba su jardín. En primavera, en verano y en otoño, sentíase muy feliz; pero cuando llegaba el invierno y no tenía ni frutos ni flores que llevar al mercado, padecía mucho frío y mucha hambre, acostándose con frecuencia sin haber comido más que unas peras secas y algunas nueces rancias. Además, en invierno, encontrábase muy solo, porque el molinero no iba nunca a verle durante aquella estación.

-No está bien que vaya a ver al pequeño Hans mientras duren las nieves -decía muchas veces el molinero a su mujer-. Cuando las personas pasan apuros hay que dejarlas solas y no atormentarlas con visitas. Ésa es por lo menos mi opinión sobre la amistad, y estoy seguro de que es acertada. Por eso esperaré la primavera y entonces iré a verle; podrá darme un gran cesto de velloritas y eso le alegrará.

-Eres realmente solícito con los demás -le respondía su mujer, sentada en un cómodo sillón junto a un buen fuego de leña-. Resulta un verdadero placer oírte hablar de la amistad. Estoy segura de que el cura no diría sobre ella tan bellas cosas como tú, aunque viva en una casa de tres pisos y lleve un anillo de oro en el meñique.

-¿Y no podríamos invitar al pequeño Hans a venir aquí? -preguntaba el hijo del molinero- Si el pobre Hans pasa apuros, le daré la mitad de mi sopa y le enseñaré mis conejos blancos.

-¡Qué bobo eres! -exclamó el molinero-. Verdaderamente, no sé para qué sirve mandarte a la escuela. Parece que no aprendes nada. Si el pequeño Hans viniese aquí, ¡pardiez!, y viera nuestro buen fuego, nuestra excelente cena y nuestra gran barrica de vino tinto, podría sentir envidia. Y la envidia es una cosa terrible que estropea los mejores caracteres. Realmente, no podría yo sufrir que el carácter de Hans se estropeará.

away in his mill, and six milch cows, and a large flock of woolly sheep; but Hans never troubled his head about these things, and nothing gave him greater pleasure than to listen to all the wonderful things the Miller used to say about the unselfishness of true friendship.

"So little Hans worked away in his garden. During the spring, the summer, and the autumn he was very happy, but when the winter came, and he had no fruit or flowers to bring to the market, he suffered a good deal from cold and hunger, and often had to go to bed without any supper but a few dried pears or some hard nuts. In the winter, also, he was extremely lonely, as the Miller never came to see him then.

"There is no good in my going to see little Hans as long as the snow lasts,' the Miller used to say to his wife, 'for when people are in trouble they should be left alone, and not be bothered by visitors. That at least is my idea about friendship, and I am sure I am right. So I shall wait till the spring comes, and then I shall pay him a visit, and he will be able to give me a large basket of primroses and that will make him so happy.'

"You are certainly very thoughtful about others,' answered the Wife, as she sat in her comfortable armchair by the big pinewood fire; 'very thoughtful indeed. It is quite a treat to hear you talk about friendship. I am sure the clergyman himself could not say such beautiful things as you do, though he does live in a three-storied house, and wear a gold ring on his little finger.'

"But could we not ask little Hans up here?' said the Miller's youngest son. 'If poor Hans is in trouble I will give him half my porridge, and show him my white rabbits.'

"What a silly boy you are!' cried the Miller; 'I really don't know what is the use of sending you to school. You seem not to learn anything. Why, if little Hans came up here, and saw our warm fire, and our good supper, and our great cask of red wine, he might get envious, and envy is a most terrible thing, and would spoil anybody's nature. I certainly will not allow Hans' nature to be spoiled.

Soy su mejor amigo, velaré siempre por él y tendré buen cuidado de no exponerle a ninguna tentación. Además, si Hans viniese aquí, podría pedirme que le diese un poco de harina fiada, lo cual no puedo hacer. La harina es una cosa y la amistad es otra, y no deben confundirse. Esas dos palabras se escriben de un modo diferente y significan cosas muy distintas, como todo el mundo sabe.

-¡Qué bien hablas! -dijo la mujer del molinero sirviéndose un gran vaso de cerveza caliente. Me siento verdaderamente como adormecida, lo mismo que en la iglesia.

-Muchos obran bien -replicó el molinero-, pero pocos saben hablar bien, lo que prueba que hablar es, con mucho, la cosa más difícil, así como la más hermosa de las dos. Y miró severamente por encima de la mesa a su hijo, que sintió tal vergüenza de sí mismo, que bajó la cabeza, se puso casi escarlata y empezó a llorar encima de su té. ¡Era tan joven, que bien pueden ustedes dispensarle!

-¿Ése es el final de la historia? -preguntó la rata de agua.

-Nada de eso -contestó el pardillo-. Ése es el comienzo.

-Entonces está usted muy atrasado con relación a su tiempo -repuso la rata de agua- Hoy día todo buen cuentista empieza por el final, prosigue por el comienzo y termina por la mitad. Es el nuevo método. Lo he oído así de labios de un crítico que se paseaba alrededor del estanque con un joven. Trataba el asunto magistralmente y estoy segura de que tenía razón, porque llevaba unas gafas azules y era calvo; y cuando el joven le hacía alguna observación contestaba siempre: «¡Psé!» Pero continúe usted su historia, se lo ruego. Me agrada mucho el molinero. Yo también encierro toda clase de bellos sentimientos: por eso hay una gran simpatía entre él y yo.

-¡Bien! -dijo el pardillo brincando sobre sus dos patitas-. No bien pasó el invierno, en cuanto las velloritas empezaron a abrir sus estrellas amarillas pálidas, el molinero dijo a su mujer que iba a salir y visitar al pequeño Hans.

I am his best friend, and I will always watch over him, and see that he is not led into any temptations. Besides, if Hans came here, he might ask me to let him have some flour on credit, and that I could not do. Flour is one thing, and friendship is another, and they should not be confused. Why, the words are spelt differently, and mean quite different things. Everybody can see that.

"How well you talk!" said the Miller's Wife, pouring herself out a large glass of warm ale; 'really I feel quite drowsy. It is just like being in church.'

"Lots of people act well," answered the Miller; 'but very few people talk well, which shows that talking is much the more difficult thing of the two, and much the finer thing also'; and he looked sternly across the table at his little son, who felt so ashamed of himself that he hung his head down, and grew quite scarlet, and began to cry into his tea. However, he was so young that you must excuse him."

"Is that the end of the story?" asked the Water-rat.

"Certainly not," answered the Linnet, "that is the beginning."

"Then you are quite behind the age," said the Water-rat. "Every good story-teller nowadays starts with the end, and then goes on to the beginning, and concludes with the middle. That is the new method. I heard all about it the other day from a critic who was walking round the pond with a young man. He spoke of the matter at great length, and I am sure he must have been right, for he had blue spectacles and a bald head, and whenever the young man made any remark, he always answered 'Pooh!' But pray go on with your story. I like the Miller immensely. I have all kinds of beautiful sentiments myself, so there is a great sympathy between us."

"Well," said the Linnet, hopping now on one leg and now on the other, "as soon as the winter was over, and the primroses began to open their pale yellow stars, the Miller said to his wife that he would go down and see little Hans.

-¡Ah, qué buen corazón tienes! -le gritó su mujer-. Piensas siempre en los demás. No te olvides de llevar el cesto grande para traer las flores.

Entonces el molinero ató unas con otras las aspas del molino con una fuerte cadena de hierro y bajó la colina con la cesta al brazo.

-Buenos días, pequeño Hans -dijo el molinero.

-Buenos días -contestó Hans, apoyándose en su azadón y sonriendo con toda su boca.

-¿Cómo has pasado el invierno? -preguntó el molinero.

-¡Bien, bien! -repuso Hans- Muchas gracias por tu interés. He pasado mis malos ratos, pero ahora ha vuelto la primavera y me siento casi feliz... Además, mis flores van muy bien.

-Hemos hablado de ti con mucha frecuencia este invierno, Hans -prosiguió el molinero-, preguntándonos qué sería de ti.

-¡Qué amable eres! -dijo Hans-. Temí que me hubieras olvidado.

-Hans, me sorprende oírte hablar de ese modo -dijo el molinero-. La amistad no olvida nunca. Eso es lo que tiene de admirable, aunque me temo que no comprendas la poesía de la amistad... Y entre paréntesis, ¡qué bellas están tus velloritas!

-Sí, verdaderamente están muy bellas -dijo Hans-, y es para mí una gran suerte tener tantas. Voy a llevarlas al mercado, donde las venderé a la hija del burgomaestre y con ese dinero compraré otra vez mi carretilla.

-¿Qué comprarás otra vez tu carretilla? ¿Quieres decir entonces que la has vendido? Es un acto bien necio.

-Con toda seguridad, pero el hecho es -replicó Hans- que me vi obligado a ello. Como sabes, el invierno es una estación mala para mí y no tenía ningún dinero para comprar pan. Así es que vendí primero los botones de plata de mi traje de los domingos; luego vendí mi cadena de plata y después mi flauta. Por último vendí mi carretilla. Pero ahora voy a rescatarlo todo.

"Why, what a good heart you have!" cried his Wife; 'you are always thinking of others. And mind you take the big basket with you for the flowers.'

"So the Miller tied the sails of the windmill together with a strong iron chain, and went down the hill with the basket on his arm.

"Good morning, little Hans," said the Miller.

"Good morning," said Hans, leaning on his spade, and smiling from ear to ear.

"And how have you been all the winter?" said the Miller.

"Well, really," cried Hans, 'it is very good of you to ask, very good indeed. I am afraid I had rather a hard time of it, but now the spring has come, and I am quite happy, and all my flowers are doing well.'

"We often talked of you during the winter, Hans," said the Miller, 'and wondered how you were getting on.'

"That was kind of you," said Hans; 'I was half afraid you had forgotten me.'

"Hans, I am surprised at you," said the Miller; 'friendship never forgets. That is the wonderful thing about it, but I am afraid you don't understand the poetry of life. How lovely your primroses are looking, by-the-bye!'

"They are certainly very lovely," said Hans, 'and it is a most lucky thing for me that I have so many. I am going to bring them into the market and sell them to the Burgomaster's daughter, and buy back my wheelbarrow with the money.'

"Buy back your wheelbarrow? You don't mean to say you have sold it? What a very stupid thing to do!"

"Well, the fact is," said Hans, 'that I was obliged to. You see the winter was a very bad time for me, and I really had no money at all to buy bread with. So I first sold the silver buttons off my Sunday coat, and then I sold my silver chain, and then I sold my big pipe, and at last I sold my wheelbarrow. But I am going to buy them all back again now.'

-Hans -dijo el molinero-, te daré mi carretilla. No está en muy buen estado. Uno de los lados se ha roto y están algo torcidos los radios de la rueda, pero a pesar de esto te la daré. Sé que es muy generoso por mi parte y a mucha gente le parecerá una locura que me desprenda de ella, pero yo no soy como el resto del mundo. Creo que la generosidad es la esencia de la amistad, y además, me he comprado una carretilla nueva. Sí, puedes estar tranquilo... Te daré mi carretilla.

-Gracias, eres muy generoso -dijo el pequeño Hans. Y su afable cara redonda resplandeció de placer-. Puedo arreglarla fácilmente porque tengo una tabla en mi casa.

-¡Una tabla! -exclamó el molinero-. ¡Muy bien! Eso es precisamente lo que necesito para la techumbre de mi granero. Hay una gran brecha y se me mojará todo el trigo si no la tapo. ¡Qué oportuno has estado! Realmente es de notar que una buena acción engendra otra siempre. Te he dado mi carretilla y ahora tú vas a darme tu tabla. Claro es que la carretilla vale mucho más que la tabla, pero la amistad sincera no repara nunca en esas cosas. Dame en seguida la tabla y hoy mismo me pondré a la obra para arreglar mi granero.

-¡Ya lo creo! -replicó el pequeño Hans. Fue corriendo a su vivienda y sacó la tabla.

-No es una tabla muy grande -dijo el molinero examinándola- y me temo que una vez hecho el arreglo de la techumbre del granero no quedará madera suficiente para el arreglo de la carretilla, pero claro es que no tengo la culpa de eso... Y ahora, en vista de que te he dado mi carretilla, estoy seguro de que accederás a darme en cambio unas flores... Aquí tienes el cesto; procura llenarlo casi por completo.

-¿Casi por completo? -dijo el pequeño Hans, bastante afligido porque el cesto era de grandes dimensiones y comprendía que si lo llenaba, no tendría ya flores para llevar al mercado y estaba deseando rescatar sus botones de plata.

-A fe mía -respondió el molinero-, una vez que te doy mi carretilla no creí que fuese mucho pedirte unas cuantas flores. Podré estar equivocado, pero yo me figuré que la amistad, la verdadera amistad, estaba exenta de toda clase de egoísmo.

"Hans,' said the Miller, 'I will give you my wheelbarrow. It is not in very good repair; indeed, one side is gone, and there is something wrong with the wheel-spokes; but in spite of that I will give it to you. I know it is very generous of me, and a great many people would think me extremely foolish for parting with it, but I am not like the rest of the world. I think that generosity is the essence of friendship, and, besides, I have got a new wheelbarrow for myself. Yes, you may set your mind at ease, I will give you my wheelbarrow.'

"Well, really, that is generous of you,' said little Hans, and his funny round face glowed all over with pleasure. 'I can easily put it in repair, as I have a plank of wood in the house.'

"A plank of wood"! said the Miller; 'why, that is just what I want for the roof of my barn. There is a very large hole in it, and the corn will all get damp if I don't stop it up. How lucky you mentioned it! It is quite remarkable how one good action always breeds another. I have given you my wheelbarrow, and now you are going to give me your plank. Of course, the wheelbarrow is worth far more than the plank, but true, friendship never notices things like that. Pray get it at once, and I will set to work at my barn this very day.'

"Certainly,' cried little Hans, and he ran into the shed and dragged the plank out.

"It is not a very big plank,' said the Miller, looking at it, 'and I am afraid that after I have mended my barn-roof there won't be any left for you to mend the wheelbarrow with; but, of course, that is not my fault. And now, as I have given you my wheelbarrow, I am sure you would like to give me some flowers in return. Here is the basket, and mind you fill it quite full.'

"Quite full?" said little Hans, rather sorrowfully, for it was really a very big basket, and he knew that if he filled it he would have no flowers left for the market and he was very anxious to get his silver buttons back.

"Well, really,' answered the Miller, 'as I have given you my wheelbarrow, I don't think that it is much to ask you for a few flowers. I may be wrong, but I should have thought that friendship, true friendship, was quite free from selfishness of any kind.'

-Mi querido amigo, mi mejor amigo -protestó el pequeño Hans-, todas las flores de mi jardín están a tu disposición, porque me importa mucho más tu estimación que mis botones de plata. Y corrió a coger las lindas velloritas y a llenar el cesto del molinero.

-¡Adiós, pequeño Hans! -dijo el molinero subiendo de nuevo la colina con su tabla al hombro y su gran cesto al brazo.

-¡Adiós! -dijo el pequeño Hans. Y se puso a cavar alegremente: ¡estaba tan contento de tener una carretilla!

A la mañana siguiente, cuando estaba sujetando unas madreselvas sobre su puerta, oyó la voz del molinero que le llamaba desde el camino. Entonces saltó de su escalera y corriendo al final del jardín miró por encima del muro.

Era el molinero con un gran saco de harina a su espalda.

-Pequeño Hans -dijo el molinero-, ¿querrías llevarme este saco de harina al mercado?

-¡Oh, lo siento mucho! -dijo Hans-; pero verdaderamente me encuentro hoy ocupadísimo. Tengo que sujetar todas mis enredaderas, que regar todas mis flores y que segar todo el césped.

-¡Pardiez! -replicó el molinero-; creí que en consideración a que te he dado mi carretilla no te negarías a complacerme.

-¡Oh, si no me niego! -protestó el pequeño Hans-. Por nada del mundo dejaría yo de obrar como amigo tratándose de ti. Y fue a coger su gorra y partió con el gran saco sobre el hombro.

Era un día muy caluroso y la carretera estaba terriblemente polvorienta. Antes de que Hans llegara al mojón que marcaba la sexta milla, hallábase tan fatigado que tuvo que sentarse a descansar. Sin embargo, no tardó mucho en continuar animosamente su camino, llegando por fin al mercado. Después de esperar un rato, vendió el saco de harina a un buen precio y regresó a su casa de un tirón, porque temía encontrarse a algún salteador en el camino si se retrasaba mucho.

"My dear friend, my best friend,' cried little Hans, 'you are welcome to all the flowers in my garden. I would much sooner have your good opinion than my silver buttons, any day'; and he ran and plucked all his pretty primroses, and filled the Miller's basket.

"Good-bye, little Hans,' said the Miller, as he went up the hill with the plank on his shoulder, and the big basket in his hand.

"Good-bye,' said little Hans, and he began to dig away quite merrily, he was so pleased about the wheelbarrow.

"The next day he was nailing up some honeysuckle against the porch, when he heard the Miller's voice calling to him from the road. So he jumped off the ladder, and ran down the garden, and looked over the wall.

"There was the Miller with a large sack of flour on his back.

"Dear little Hans,' said the Miller, 'would you mind carrying this sack of flour for me to market?'

"Oh, I am so sorry,' said Hans, 'but I am really very busy to-day. I have got all my creepers to nail up, and all my flowers to water, and all my grass to roll.'

"Well, really,' said the Miller, 'I think that, considering that I am going to give you my wheelbarrow, it is rather unfriendly of you to refuse.'

"Oh, don't say that,' cried little Hans, 'I wouldn't be unfriendly for the whole world'; and he ran in for his cap, and trudged off with the big sack on his shoulders.

"It was a very hot day, and the road was terribly dusty, and before Hans had reached the sixth milestone he was so tired that he had to sit down and rest. However, he went on bravely, and as last he reached the market. After he had waited there some time, he sold the sack of flour for a very good price, and then he returned home at once, for he was afraid that if he stopped too late he might meet some robbers on the way.

-¡Qué día más duro! -se dijo Hans al meterse en la cama- Pero me alegra mucho no haberme negado, porque el molinero es mi mejor amigo y, además, va a darme su carretilla.

A la mañana siguiente, muy temprano, el molinero llegó por el dinero de su saco de harina, pero el pequeño Hans estaba tan rendido, que no se había levantado aún de la cama.

-¡Palabra! -exclamó el molinero-. Eres muy perezoso. Cuando pienso que acabo de darte mi carretilla, creo que podrías trabajar con más ardor. La pereza es un gran vicio y no quisiera yo que ninguno de mis amigos fuera perezoso o apático. No creas que te hablo sin miramientos. Claro es que no te hablaría así si no fuese amigo tuyo. Pero, ¿de qué serviría la amistad sino pudiera uno decir claramente lo que piensa? Todo el mundo puede decir cosas amables y esforzarse en ser agradable y en halagar, pero un amigo sincero dice cosas molestas y no teme causar pesadumbre. Por el contrario, si es un amigo verdadero, lo prefiere, porque sabe que así hace bien.

-Lo siento mucho -respondió el pequeño Hans, restregándose los ojos y quitándose el gorro de dormir-. Pero estaba tan rendido, que creía haberme acostado hace poco y escuchaba cantar a los pájaros. ¿No sabes que trabajo siempre mejor cuando he oído cantar a los pájaros?

-¡Bueno, tanto mejor! -replicó el molinero dándole una palmada en el hombro-; porque necesito que arregles la techumbre de mi granero.

El pequeño Hans tenía gran necesidad de ir a trabajar a su jardín porque hacía dos días que no regaba sus flores, pero no quiso decir que no al molinero, que era un buen amigo para él.

-¿Crees que no sería amistoso decirte que tengo que hacer? -preguntó con voz humilde y tímida.

-No creí nunca, a fe mía -contestó el molinero-, que fuese mucho pedirte, teniendo en cuenta que acabo de regalarte mi carretilla, pero claro es que lo haré yo mismo si te niegas.

-¡Oh, de ningún modo! -exclamó el pequeño Hans, saltando de su cama. Se vistió y fue al granero.

"It has certainly been a hard day,' said little Hans to himself as he was going to bed, 'but I am glad I did not refuse the Miller, for he is my best friend, and, besides, he is going to give me his wheelbarrow.'

"Early the next morning the Miller came down to get the money for his sack of flour, but little Hans was so tired that he was still in bed.

"Upon my word,' said the Miller, 'you are very lazy. Really, considering that I am going to give you my wheelbarrow, I think you might work harder. Idleness is a great sin, and I certainly don't like any of my friends to be idle or sluggish. You must not mind my speaking quite plainly to you. Of course I should not dream of doing so if I were not your friend. But what is the good of friendship if one cannot say exactly what one means? Anybody can say charming things and try to please and to flatter, but a true friend always says unpleasant things, and does not mind giving pain. Indeed, if he is a really true friend he prefers it, for he knows that then he is doing good.'

"I am very sorry,' said little Hans, rubbing his eyes and pulling off his night-cap, 'but I was so tired that I thought I would lie in bed for a little time, and listen to the birds singing. Do you know that I always work better after hearing the birds sing?'

"Well, I am glad of that,' said the Miller, clapping little Hans on the back, 'for I want you to come up to the mill as soon as you are dressed, and mend my barn-roof for me.'

"Poor little Hans was very anxious to go and work in his garden, for his flowers had not been watered for two days, but he did not like to refuse the Miller, as he was such a good friend to him.

"Do you think it would be unfriendly of me if I said I was busy?' he inquired in a shy and timid voice.

"Well, really,' answered the Miller, 'I do not think it is much to ask of you, considering that I am going to give you my wheelbarrow; but of course if you refuse I will go and do it myself.'

"Oh! on no account,' cried little Hans and he jumped out of bed, and dressed himself, and went up to the barn.

Trabajó allí durante todo el día hasta el anochecer, y al ponerse el sol, vino el molinero a ver hasta dónde había llegado.

-¿Has tapado el boquete del techo, pequeño Hans?
-gritó el molinero con tono alegre.

-Está casi terminado -respondió Hans, bajando de la, escalera.

-¡Ah! -dijo el molinero- No hay trabajo tan delicioso como el que se hace por otro.

-¡Es un encanto oírte hablar! -respondió el pequeño Hans, que descansaba secándose la frente- Es un encanto, pero temo no tener yo nunca ideas tan hermosas como tú.

-¡Oh, ya las tendrás! -dijo el molinero-; pero habrás de tomarte más trabajo. Por ahora no posees más que la práctica de la amistad. Algún día poseerás también la teoría.

-¿Crees eso de verdad? -preguntó el pequeño Hans.

-Indudablemente -contestó el molinero-. Pero ahora que has arreglado el techo, mejor harás en volverte a tu casa a descansar, pues mañana necesito que lleves mis carneros a la montaña.

El pobre Hans no se atrevió a protestar, y al día siguiente, al amanecer, el molinero condujo sus carneros hasta cerca de su casita y Hans se marchó con ellos a la montaña. Entre ir y volver se le fue el día, y cuando regresó estaba tan cansado, que se durmió en su silla y no se despertó hasta entrada la mañana.

-¡Qué tiempo más delicioso tendrá mi jardín! -se dijo, e iba a ponerse a trabajar.

Pero por un motivo u otro no tuvo tiempo de echar un vistazo a sus flores; llegaba su amigo el molinero y le mandaba muy lejos a recados o le pedía que fuese a ayudar en el molino. Algunas veces el pequeño Hans se apuraba grandemente al pensar que sus flores creerían que las había olvidado; pero se consolaba pensando que el molinero era su mejor amigo. -Además -acostumbraba a decirse- va a darme su carretilla, lo cual es un acto de puro desprendimiento.

"He worked there all day long, till sunset, and at sunset the Miller came to see how he was getting on.

"Have you mended the hole in the roof yet, little Hans?" cried the Miller in a cheery voice.

"It is quite mended," answered little Hans, coming down the ladder.

"Ah!" said the Miller, 'there is no work so delightful as the work one does for others.'

"It is certainly a great privilege to hear you talk," answered little Hans, sitting down, and wiping his forehead, 'a very great privilege. But I am afraid I shall never have such beautiful ideas as you have.'

"Oh! they will come to you," said the Miller, 'but you must take more pains. At present you have only the practice of friendship; some day you will have the theory also.'

"Do you really think I shall?" asked little Hans.

"I have no doubt of it," answered the Miller, 'but now that you have mended the roof, you had better go home and rest, for I want you to drive my sheep to the mountain to-morrow.'

"Poor little Hans was afraid to say anything to this, and early the next morning the Miller brought his sheep round to the cottage, and Hans started off with them to the mountain. It took him the whole day to get there and back; and when he returned he was so tired that he went off to sleep in his chair, and did not wake up till it was broad daylight.

"What a delightful time I shall have in my garden," he said, and he went to work at once.

"But somehow he was never able to look after his flowers at all, for his friend the Miller was always coming round and sending him off on long errands, or getting him to help at the mill. Little Hans was very much distressed at times, as he was afraid his flowers would think he had forgotten them, but he consoled himself by the reflection that the Miller was his best friend. 'Besides,' he used to say, 'he is going to give me his wheelbarrow, and that is an act of pure generosity.'

Y el pequeño Hans trabajaba para el molinero, y éste decía muchas cosas bellas sobre la amistad, cosas que Hans copiaba en su libro verde y que releía por la noche, pues era culto.

Ahora bien; sucedió que una noche, estando el pequeño Hans sentado junto al fuego, dieron un aldabonazo en la puerta. La noche era negrísima. El viento soplaba y rugía en torno de la casa de un modo tan terrible, que Hans pensó al principio si sería el huracán el que sacudía la puerta. Pero sonó un segundo golpe y después un tercero más violento que los otros.

-Será de algún pobre viajero -se dijo el pequeño Hans y corrió a la puerta.

El molinero estaba en el umbral con una linterna en una mano y un grueso garrote en la otra.

-Querido Hans -gritó el molinero-, me aflige un gran pesar, mi chico se ha caído de una escalera, hiriéndose. Voy a buscar al médico. Pero vive lejos de aquí y la noche es tan mala, que he pensado que fueses tú en mi lugar. Ya sabes que te doy mi carretilla. Por eso estaría muy bien que hicieses algo por mí en cambio.

-Seguramente -exclamó el pequeño Hans-; me alegra mucho que se te haya ocurrido venir. Iré en seguida. Pero debías dejarme tu linterna, porque la noche es tan oscura, que temo caer en alguna zanja.

-Lo siento muchísimo -respondió el molinero-,pero es mi linterna nueva y sería una gran pérdida que le ocurriese algo.

-¡Bueno, no hablemos más! Me pasaré sin ella -dijo el pequeño Hans. Se puso su gran capa de pieles, su gorro encarnado de gran abrigo, se enrolló su tapabocas alrededor del cuello y partió.

¡Qué terrible tempestad se desencadenaba! La noche era tan negra, que el pequeño Hans no veía apenas, y el viento tan fuerte, que le costaba gran trabajo andar. Sin embargo, él era muy animoso, y después de caminar cerca de tres horas, llegó a casa del médico y llamó a su puerta.

-¿Quién es? -gritó el doctor, asomando la cabeza a la ventana de su habitación.

"So little Hans worked away for the Miller, and the Miller said all kinds of beautiful things about friendship, which Hans took down in a note-book, and used to read over at night, for he was a very good scholar.

"Now it happened that one evening little Hans was sitting by his fireside when a loud rap came at the door. It was a very wild night, and the wind was blowing and roaring round the house so terribly that at first he thought it was merely the storm. But a second rap came, and then a third, louder than any of the others.

"It is some poor traveller,' said little Hans to himself, and he ran to the door.

"There stood the Miller with a lantern in one hand and a big stick in the other.

"Dear little Hans,' cried the Miller, 'I am in great trouble. My little boy has fallen off a ladder and hurt himself, and I am going for the Doctor. But he lives so far away, and it is such a bad night, that it has just occurred to me that it would be much better if you went instead of me. You know I am going to give you my wheelbarrow, and so, it is only fair that you should do something for me in return.'

"Certainly,' cried little Hans, 'I take it quite as a compliment your coming to me, and I will start off at once. But you must lend me your lantern, as the night is so dark that I am afraid I might fall into the ditch.'

"I am very sorry,' answered the Miller, 'but it is my new lantern, and it would be a great loss to me if anything happened to it.'

"Well, never mind, I will do without it,' cried little Hans, and he took down his great fur coat, and his warm scarlet cap, and tied a muffler round his throat, and started off.

"What a dreadful storm it was! The night was so black that little Hans could hardly see, and the wind was so strong that he could scarcely stand. However, he was very courageous, and after he had been walking about three hours, he arrived at the Doctor's house, and knocked at the door.

"Who is there?' cried the Doctor, putting his head out of his bedroom window.

-¡El pequeño Hans, doctor!

-¿Y qué deseas, pequeño Hans?

-El hijo del molinero se ha caído de una escalera y se ha herido y es necesario que vaya usted en seguida.

-¡Muy bien! -replicó el doctor. Enjaezó en el acto su caballo, se calzó sus grandes botas, y, cogiendo su linterna, bajó la escalera. Se dirigió a casa del molinero, llevando al pequeño Hans a pie, detrás de él.

Pero la tormenta arreció. Llovía a torrentes y el pequeño Hans no podía ni ver por dónde iba, ni seguir al caballo. Finalmente, perdió su camino, estuvo vagando por el páramo, que era un paraje peligroso lleno de hoyos profundos, cayó en uno de ellos el pobre Hans y se ahogó. A la mañana siguiente, unos pastores encontraron su cuerpo flotando en una gran charca y le llevaron a su casita.

Todo el mundo asistió al entierro del pequeño Hans porque era muy querido. Y el molinero figuró a la cabeza del duelo.

-Era yo su mejor amigo -decía el molinero-; justo es que ocupe el sitio de honor. Así es que fue a la cabeza del cortejo con una larga capa negra; de cuando en cuando se enjugaba los ojos con un gran pañuelo de hierbas.

-El pequeño Hans representa ciertamente una gran pérdida para todos nosotros -dijo el hojalatero una vez terminados los funerales y cuando el acompañamiento estuvo cómodamente instalado en la posada, bebiendo vino dulce y comiendo buenos pasteles.

-Es una gran pérdida, sobre todo para mí -contestó el molinero-. A fe mía que fui lo bastante bueno para comprometerme a darle mi carretilla y ahora no se qué hacer de ella. Me estorba en casa, y está en tal mal estado, que si la vendiera no sacaría nada. Os aseguro que de aquí en adelante no daré nada a nadie. Se pagan siempre las consecuencias de haber sido generoso.

-Y es verdad -replicó la rata de agua después de una larga pausa.

-¡Bueno! Pues nada más -dijo el pardillo.

-¿Y qué fue del molinero? -dijo la rata de agua.

"Little Hans, Doctor.'

"What do you want, little Hans?'

"The Miller's son has fallen from a ladder, and has hurt himself, and the Miller wants you to come at once.'

"All right!" said the Doctor; and he ordered his horse, and his big boots, and his lantern, and came downstairs, and rode off in the direction of the Miller's house, little Hans trudging behind him.

"But the storm grew worse and worse, and the rain fell in torrents, and little Hans could not see where he was going, or keep up with the horse. At last he lost his way, and wandered off on the moor, which was a very dangerous place, as it was full of deep holes, and there poor little Hans was drowned. His body was found the next day by some goatherds, floating in a great pool of water, and was brought back by them to the cottage.

"Everybody went to little Hans' funeral, as he was so popular, and the Miller was the chief mourner.

"As I was his best friend,' said the Miller, 'it is only fair that I should have the best place'; so he walked at the head of the procession in a long black cloak, and every now and then he wiped his eyes with a big pocket-handkerchief.

"Little Hans is certainly a great loss to every one,' said the Blacksmith, when the funeral was over, and they were all seated comfortably in the inn, drinking spiced wine and eating sweet cakes.

"A great loss to me at any rate,' answered the Miller; 'why, I had as good as given him my wheelbarrow, and now I really don't know what to do with it. It is very much in my way at home, and it is in such bad repair that I could not get anything for it if I sold it. I will certainly take care not to give away anything again. One always suffers for being generous."

"Well?" said the Water-rat, after a long pause.

"Well, that is the end," said the Linnet.

"But what became of the Miller?" asked the Water-rat.

-¡Oh! No lo sé a punto fijo -contesto el pardillo y verdaderamente me da igual.

-Es evidente que su carácter de usted no es nada simpático -dijo la rata de agua.

-Temo que no haya usted comprendido la moraleja de la historia -replicó el pardillo.

-¿La qué? -gritó la rata de agua.

La moraleja.

-¿Quiere eso decir que la historia tiene una moraleja?

-¡Claro que sí! -afirmó el pardillo.

-¡Caramba! -dijo la rata con tono iracundo- Podía usted habérmelo dicho antes de empezar. De ser así no le hubiera escuchado, con toda seguridad. Le hubiese dicho indudablemente: «¡Psé!», como el crítico. Pero aun estoy a tiempo de hacerlo. Gritó su «¡Psé!» a toda voz, y dando un coletazo, se volvió a su agujero.

-¿Qué le parece a usted la rata de agua? -preguntó la pata, que llegó chapoteando algunos minutos después- Tiene muchas buenas cualidades, pero yo, por mi parte, tengo sentimientos de madre y no puedo ver a un solterón empedernido sin que se me salten las lágrimas.

-Temo haberle molestado -respondió el pardillo-. El hecho es que le he contado una historia que tiene su moraleja.

-¡Ah, eso es siempre una cosa peligrosísima! -dijo la pata.

-Y yo comparto su opinión en absoluto.

"Oh! I really don't know," replied the Linnet; "and I am sure that I don't care."

"It is quite evident then that you have no sympathy in your nature," said the Water-rat.

"I am afraid you don't quite see the moral of the story," remarked the Linnet.

"The what?" screamed the Water-rat.

"The moral."

"Do you mean to say that the story has a moral?"

"Certainly," said the Linnet.

"Well, really," said the Water-rat, in a very angry manner, "I think you should have told me that before you began. If you had done so, I certainly would not have listened to you; in fact, I should have said 'Pooh,' like the critic. However, I can say it now"; so he shouted out "Pooh" at the top of his voice, gave a whisk with his tail, and went back into his hole.

"And how do you like the Water-rat?" asked the Duck, who came paddling up some minutes afterwards. "He has a great many good points, but for my own part I have a mother's feelings, and I can never look at a confirmed bachelor without the tears coming into my eyes."

"I am rather afraid that I have annoyed him," answered the Linnet. "The fact is, that I told him a story with a moral."

"Ah! that is always a very dangerous thing to do," said the Duck.

And I quite agree with her.

The Ones Who Walk Away From Omelas

Ursula K. Le Guin

With a clamor of bells that set the swallows soaring, the Festival of Summer came to the city Omelas, bright-towered by the sea. The rigging of the boats in harbor sparkled with flags. In the streets between houses with red roofs and painted walls, between old moss-grown gardens and under avenues of trees, past great parks and public buildings, processions moved. Some were decorous: old people in long stiff robes of mauve and grey, grave master workmen, quiet, merry women carrying their babies and chatting as they walked. In other streets the music beat faster, a shimmering of gong and tambourine, and the people went dancing, the procession was a dance. Children dodged in and out, their high calls rising like the swallows' crossing flights over the music and the singing. All the processions wound towards the north side of the city, where on the great water-meadow called the Green Fields boys and girls, naked in the bright air, with mud-stained feet and ankles and long, lithe arms, exercised their restive horses before the race. The horses wore no gear at all but a halter without bit. Their manes were braided with streamers of silver, gold, and green. They flared their nostrils and pranced and boasted to one another; they were vastly excited, the horse being the only animal who has adopted our ceremonies as his own. Far off to the north and west the mountains stood up half encircling Omelas on her bay. The air of morning was so clear that the snow still crowning the Eighteen Peaks burned with white-gold fire across the miles of sunlit air, under the dark blue of the sky. There was just enough wind to make the banners that marked the racecourse snap and flutter now and then. In the silence of the broad green meadows one could hear the music winding through the city streets, farther and nearer and ever approaching, a cheerful faint sweetness of the air that from time to time trembled and gathered together and broke out into the great joyous clanging of the bells.

Joyous! How is one to tell about joy? How describe the citizens of Omelas?

They were not simple folk, you see, though they were happy. But we do not say the words of cheer much any more. All smiles have become archaic. Given a description such as this one tends to make certain assumptions. Given a description such as this one tends to look next for the King, mounted on a splendid stallion and surrounded by his noble knights, or perhaps in a golden litter borne by great-muscled slaves. But there was no king. They did not use swords, or keep slaves. They were not barbarians. I do not know the rules and laws of their society, but I suspect that they were singularly few. As they did without monarchy and slavery, so they also got on without the stock exchange, the advertisement, the secret police, and the bomb. Yet I repeat that these were not simple folk, not dulcet shepherds, noble savages, bland utopians. They were not less complex than us. The trouble is that we have a bad habit, encouraged by pedants and sophisticates, of considering happiness as something rather stupid. Only pain is intellectual, only evil interesting. This is the treason of the artist: a refusal to admit the banality of evil and the terrible boredom of pain. If you can't lick 'em, join 'em. If it hurts, repeat it. But to praise despair is to condemn delight, to embrace violence is to lose hold of everything else. We have almost lost hold; we can no longer describe a happy man, nor make any celebration of joy. How can I tell you about the people of Omelas? They were not naive and happy children—though their children were, in fact, happy. They were mature, intelligent, passionate adults whose lives were not wretched. O miracle! but I wish I could describe it better. I wish I could convince you. Omelas sounds in my words like a city in a fairy tale, long ago and far away, once upon a time. Perhaps it would be best if you imagined it as your own fancy bids, assuming it will rise to the occasion, for certainly I cannot suit you all. For instance, how about technology? I think that there would be no cars or helicopters in and above the streets; this follows from the fact that the people of Omelas are happy people. Happiness is based on a just discrimination of

what is necessary, what is neither necessary nor destructive, and what is destructive. In the middle category, however—that of the unnecessary but undestructive, that of comfort, luxury, exuberance, etc.—they could perfectly well have central heating, subway trains, washing machines, and all kinds of marvelous devices not yet invented here, floating light-sources, fuelless power, a cure for the common cold. Or they could have none of that; it doesn't matter.

As you like it. I incline to think that people from towns up and down the coast have been coming in to Omelas during the last days before the Festival on very fast little trains and double-decked trams, and that the train station of Omelas is actually the handsomest building in town, though plainer than the magnificent Farmers' Market. But even granted trains, I fear that Omelas so far strikes some of you as goody-goody. Smiles, bells, parades, horses, bleh. If so, please add an orgy. If an orgy would help, don't hesitate. Let us not, however, have temples from which issue beautiful nude priests and priestesses already half in ecstasy and ready to copulate with any man or woman, lover or stranger, who desires union with the deep godhead of the blood, although that was my first idea. But really it would be better not to have any temples in Omelas—at least, not manned temples. Religion yes, clergy no. Surely the beautiful nudes can just wander about, offering themselves like divine souffles to the hunger of the needy and the rapture of the flesh. Let them join the processions. Let tambourines be struck above the copulations, and the glory of desire be proclaimed upon the gongs, and (a not unimportant point) let the offspring of these delightful rituals be beloved and looked after by all. One thing I know there is none of in Omelas is guilt. But what else should there be? I thought at first there were not drugs, but that is puritanical. For those who like it, the faint insistent sweetness of drooz may perfume the ways of the city, drooz which first brings a great lightness and brilliance to the mind and limbs, and then after some hours a dreamy languor, and wonderful visions at last of the very arcana and inmost secrets of the Universe, as well as exciting the pleasure of sex beyond belief; and it is not habit-forming. For more modest tastes I think there ought to be beer. What else, what else belongs in the joyous city? The sense of victory, surely, the celebration of courage. But as we did without clergy, let us do without soldiers. The joy built upon successful slaughter is not the right kind of joy; it will not do; it is fearful and it is trivial. A boundless and generous contentment, a magnanimous triumph felt not against some outer enemy but in communion with the finest and fairest in the souls of all men everywhere and the splendor of the world's summer: this is what swells the hearts of the people of Omelas, and the victory they celebrate is that of life. I really don't think many of them need to take drooz.

Most of the procession have reached the Green Fields by now. A marvelous smell of cooking goes forth from the red and blue tents of the provisioners. The faces of small children are amiably sticky; in the benign grey beard of a man a couple of crumbs of rich pastry are entangled. The youths and girls have mounted their horses and are beginning to group around the starting line of the course. An old woman, small, fat, and laughing, is passing out flowers from a basket, and tall young men wear her flowers in their shining hair. A child of nine or ten sits at the edge of the crowd, alone, playing on a wooden flute. People pause to listen, and they smile, but they do not speak to him, for he never ceases playing and never sees them, his dark eyes wholly rapt in the sweet, thin magic of the tune.

He finishes, and slowly lowers his hands holding the wooden flute.

As if that little private silence were the signal, all at once a trumpet sounds from the pavilion near the starting line: imperious, melancholy, piercing. The horses rear on their slender legs, and some of them neigh in answer. Sober-faced, the young riders stroke the horses' necks and soothe them, whispering, "Quiet, quiet, there my beauty, my hope...." They begin to form in rank

along the starting line. The crowds along the racecourse are like a field of grass and flowers in the wind. The Festival of Summer has begun.

Do you believe? Do you accept the festival, the city, the joy? No? Then let me describe one more thing.

In a basement under one of the beautiful public buildings of Omelas, or perhaps in the cellar of one of its spacious private homes, there is a room. It has one locked door, and no window. A little light seeps in dustily between cracks in the boards, secondhand from a cobwebbed window somewhere across the cellar. In one corner of the little room a couple of mops, with stiff, clotted, foul-smelling heads stand near a rusty bucket. The floor is dirt, a little damp to the touch, as cellar dirt usually is. The room is about three paces long and two wide: a mere broom closet or disused tool room. In the room a child is sitting. It could be a boy or a girl. It looks about six, but actually is nearly ten. It is feeble-minded. Perhaps it was born defective, or perhaps it has become imbecile through fear, malnutrition, and neglect. It picks its nose and occasionally fumbles vaguely with its toes or genitals, as it sits hunched in the corner farthest from the bucket and the two mops. It is afraid of the mops. It finds them horrible. It shuts its eyes, but it knows the mops are still standing there; and the door is locked; and nobody will come. The door is always locked; and nobody ever comes, except that sometimes—the child has no understanding of time or interval—sometimes the door rattles terribly and opens, and a person, or several people, are there. One of them may come in and kick the child to make it stand up. The others never come close, but peer in at it with frightened, disgusted eyes. The food bowl and the water jug are hastily filled, the door is locked, the eyes disappear. The people at the door never say anything, but the child, who has not always lived in the tool room, and can remember sunlight and its mother's voice, sometimes speaks. "I will be good," it says. "Please let me out. I will be good!" They never answer. The child used to scream for help at night, and cry a good deal, but now it only makes a kind of whining, "eh-haa, eh-haa," and it speaks less and less often. It is so thin there are no calves to its legs; its belly protrudes; it lives on a half-bowl of corn meal and grease a day. It is naked. Its buttocks and thighs are a mass of festering sores, as it sits in its own excrement continually.

They all know it is there, all the people of Omelas. Some of them have come to see it, others are content merely to know it is there. They all know that it has to be there. Some of them understand why, and some do not, but they all understand that their happiness, the beauty of their city, the tenderness of their friendships, the health of their children, the wisdom of their scholars, the skill of their makers, even the abundance of their harvest and the kindly weathers of their skies, depend wholly on this child's abominable misery.

This is usually explained to children when they are between eight and twelve, whenever they seem capable of understanding; and most of those who come to see the child are young people, though often enough an adult comes, or comes back, to see the child. No matter how well the matter has been explained to them, these young spectators are always shocked and sickened at the sight. They feel disgust, which they had thought themselves superior to. They feel anger, outrage, impotence, despite all the explanations. They would like to do something for the child. But there is nothing they can do. If the child were brought up into the sunlight out of that vile place, if it were cleaned and fed and comforted, that would be a good thing indeed; but if it were done, in that day and hour all the prosperity and beauty and delight of Omelas would wither and be destroyed. Those are the terms. To exchange all the goodness and grace of every life in Omelas for that single, small improvement: to throw away the happiness of thousands for the chance of the happiness of one: that would be to let guilt within the walls indeed.

The terms are strict and absolute; there may not even be a kind word spoken to the child.

Often the young people go home in tears, or in a tearless rage, when they have seen the child and faced this terrible paradox. They may brood over it for weeks or years. But as time goes on they begin to realize that even if the child could be released, it would not get much good of its freedom: a little vague pleasure of warmth and food, no doubt, but little more. It is too degraded and imbecile to know any real joy. It has been afraid too long ever to be free of fear. Its habits are too uncouth for it to respond to humane treatment. Indeed, after so long it would probably be wretched without walls about it to protect it, and darkness for its eyes, and its own excrement to sit in. Their tears at the bitter injustice dry when they begin to perceive the terrible justice of reality, and to accept it. Yet it is their tears and anger, the trying of their generosity and the acceptance of their helplessness, which are perhaps the true source of the splendor of their lives. Theirs is no vapid, irresponsible happiness. They know that they, like the child, are not free. They know compassion. It is the existence of the child, and their knowledge of its existence, that makes possible the nobility of their architecture, the poignancy of their music, the profundity of their science. It is because of the child that they are so gentle with children. They know that if the wretched one were not there sniveling in the dark, the other one, the flute-player, could make no joyful music as the young riders line up in their beauty for the race in the sunlight of the first morning of summer.

Now do you believe in them? Are they not more credible? But there is one more thing to tell, and this is quite incredible.

At times one of the adolescent girls or boys who go to see the child does not go home to weep or rage, does not, in fact, go home at all. Sometimes also a man or woman much older falls silent for a day or two, and then leaves home. These people go out into the street, and walk down the street alone. They keep walking, and walk straight out of the city of Omelas, through the beautiful gates. They keep walking across the farmlands of Omelas. Each one goes alone, youth or girl, man or woman. Night falls; the traveler must pass down village streets, between the houses with yellow-lit windows, and on out into the darkness of the fields. Each alone, they go west or north, towards the mountains. They go on. They leave Omelas, they walk ahead into the darkness, and they do not come back. The place they go towards is a place even less imaginable to most of us than the city of happiness. I cannot describe it at all. It is possible that it does not exist. But they seem to know where they are going, the ones who walk away from Omelas.

Notes for Dystopian Movie

Movie Title: _____

[illegible]

"Girl" by Jamaica Kincaid

from Charters, Ann, Ed. *The Story and its Writer: An Introduction to Short Fiction*. 6th Ed. Boston: Bedford/St. Martin's, 2003.

J A M A I C A K I N C A I D

GIRL



Wash the white clothes on Monday and put them on the stone heap; wash the color clothes on Tuesday and put them on the clothesline to dry; don't walk barehead in the hot sun; cook pumpkin fritters in very hot sweet oil; soak your little cloths right after you take them off; when buying cotton to make yourself a nice blouse, be sure that it doesn't have gum on it, because that way it won't hold up well after a wash; soak salt fish overnight before you cook it; is it true that you sing benna¹ in Sunday school?; always eat your food in such a way that it won't turn someone else's stomach; on Sundays try to walk like a lady and not like the slut you are so bent on becoming; don't sing benna in Sunday school; you mustn't speak to wharf-rat boys, not even to give directions; don't eat fruits on the street—flies will follow you; *but I don't sing benna on Sundays at all and never in Sunday school*; this is how to sew on a button; this is how to make a buttonhole for the button you have just sewed on; this is how to hem a dress when you see the hem coming down and so to prevent yourself from looking like the slut I know you are so bent on becoming; this is how you iron your father's khaki shirt so that it doesn't have a crease; this is how you iron your father's khaki pants so that they don't have a crease; this is how you grow okra—far from the house, because okra tree harbors red ants; when you are growing dasheen, make sure it gets plenty of water or else it makes your throat itch when you are eating it; this is how you sweep a corner; this is how you sweep a whole house; this is how you sweep a yard; this is how you smile to someone you don't like very much; this is how you smile to someone you don't like at all; this is how you smile to someone you like completely; this is how you set a

1. Calypso songs.

table for tea; this is how you set a table for dinner; this is how you set a table for dinner with an important guest; this is how you set a table for lunch; this is how you set a table for breakfast; this is how to behave in the presence of men who don't know you very well, and this way they won't recognize immediately the slut I have warned you against becoming; be sure to wash every day, even if it is with your own spit; don't squat down to play marbles—you are not a boy, you know; don't pick people's flowers—you might catch something; don't throw stones at blackbirds, because it might not be a blackbird at all; this is how to make a bread pudding; this is how to make doukona; this is how to make pepper pot; this is how to make a good medicine for a cold; this is how to make a good medicine to throw away a child before it even becomes a child; this is how to catch a fish; this is how to throw back a fish you don't like, and that way something bad won't fall on you; this is how to bully a man; this is how a man bullies you; this is how to love a man, and if this doesn't work there are other ways, and if they don't work don't feel too bad about giving up; this is how to spit up in the air if you feel like it, and this is how to move quick so that it doesn't fall on you; this is how to make ends meet; always squeeze bread to make sure it's fresh; *but what if the baker won't let me feel the bread?*; you mean to say that after all you are really going to be the kind of woman who the baker won't let near the bread?

1983



The Jim Crow North

You know about the long fight against segregation in the South. But civil rights struggles in the rest of the nation have often been overlooked.

March 9, 2020 *New York Times Upfront* magazine By Joe Bubar

On February 3, 1964, nearly half a million students—most of them African American and Puerto Rican—joined together to protest segregation in local education. Staying out of class for the day, they marched in front of their schools shouting “Jim Crow must go,” held signs with slogans such as “Integration Means Better Education,” and sang “We Shall Overcome.”

That demonstration, 56 years ago, turned out to be the largest civil rights protest of the decade. But it didn’t take place in the South, where you might have expected. It happened in New York City, where public education remained heavily segregated 10 years after the Supreme Court had ruled in *Brown v. Board of Education* that separate schools for black children and white children were unconstitutional.

The history of the civil rights movement usually focuses on the South. You know about the sit-ins, boycotts, and marches in places like Greensboro, North Carolina, and Birmingham, Alabama, that led to the passage of legislation such as the Civil Rights Act in 1964, which outlawed segregation in public spaces. But state-sponsored segregation also existed in the North, and thousands of people joined in civil rights movements outside the South, from New York City to Boston to Detroit.

So why haven’t you heard as much about them?

We often portray racism in the U.S. “as a regional problem, not a national problem,” says Jeanne Theoharis, author of a book on the civil rights movement called *A More Beautiful and Terrible History*. “The tendency when talking about segregation in the North is to say that it’s more episodic, and more personal, and not state-sponsored—except that we know that’s not the case.”

‘Separate but Equal’

When you think of Jim Crow laws, which segregated blacks and whites beginning in the late 19th century, you probably imagine separate train cars, bathrooms, and water fountains in the South. But Jim Crow cars segregating blacks and whites actually existed much earlier in the North—for instance, along the Eastern Rail Road, which ran from Boston to Salem, Massachusetts, beginning in 1838, more than 20 years before the Civil War (1861-65).

However, it was in the South where Jim Crow laws became deeply rooted in society after Reconstruction, the period following the Civil War. And the notion of “separate but equal” public accommodations for blacks and whites was embedded in the law with the Supreme Court’s 1896 ruling in *Plessy v. Ferguson* (see timeline, below).

Many whites in the South used lynching and other acts of terror to enforce Jim Crow laws. And largely as a result, more than 6 million African Americans fled the South, seeking refuge in the North, Midwest, and West during the Great Migration (1916-70).

Although many black people did find better economic opportunities and a safer environment up North, they also discovered that they hadn't left racism and segregation behind entirely but instead encountered them in new ways.

A common belief about Northern segregation, and one that many journalists and historians reinforced, is that it wasn't written into law but was merely *de facto* (Latin for occurring in practice)—and was the product of individuals' racism, personal choices about where to live, and financial disparities between whites and blacks.

Indeed, racism by individuals did play a role in Northern segregation. Many landowners in cities in the North refused to rent or sell homes to African Americans, restaurants frequently posted “whites only” signs, and many entertainment venues admitted only white audience members—even if they hired black entertainers, like the famed Cotton Club in New York City.

But that's only part of the story. Federal and local government policies also supported and legalized segregation in the North, says Richard Rothstein, author of *The Color of Law: A Forgotten History of How Our Government Segregated America*.

“We've developed a national myth,” Rothstein says, “this myth of *de facto* segregation. We'd rather not deal with it. And so we developed this rationalization to justify our not dealing with it.”

The New Deal

Rothstein points out that in the North, as in other parts of the country, the federal government pursued policies that contributed to the segregation and decay of urban areas.

For example, after President Franklin D. Roosevelt took office in 1933, he launched a series of programs called the New Deal to help bring America out of the Great Depression. One New Deal program spurred the creation of the first civilian public housing (today often referred to as housing projects or just “the projects”), which was segregated for whites and blacks. The government frequently demolished integrated neighborhoods in such cities as Cleveland and Boston to create segregated public housing.

Roosevelt also created the Federal Housing Administration (F.H.A.), which subsidized builders that developed many of the suburban neighborhoods that sprouted outside cities nationwide in the mid-20th century. The F.H.A.'s manual stated that “incompatible racial groups should not be permitted to live in the same communities,” meaning none of the homes in those subdivisions could be sold to African Americans.

One well-known example is Levittown, a suburb near New York City. The F.H.A. helped support the construction of the community in the late 1940s on the condition that no homes be sold to African Americans. Every home also had to have a clause in its deed prohibiting resale to black people.

While white people increasingly moved into suburbs like Levittown, African Americans were forced into urban areas that became overcrowded. Beginning in the 1930s, the federal government had created color-coded maps of every metropolitan area in the U.S., with neighborhoods where minorities lived highlighted red. These “redlined” areas were deemed “too risky” for banks to invest in, so they grew more and more run-down.

“The differences between white and black communities increased,” says Rothstein, “as black areas became more and more deteriorated relative to white neighborhoods that were receiving investment.”

Rothstein adds that while segregated neighborhoods might have existed without these government practices, segregation—and economic disparity—became more pronounced in the U.S. because of them.

Protests & Riots

This neighborhood segregation in the North contributed to schools being segregated long after the Supreme Court’s Brown ruling. In New York City, as in other places, majority-black schools were overcrowded and underfunded compared with majority-white schools. New York City’s Board of Education claimed that segregation in its schools was de facto, and thus argued that the Court’s ruling in Brown didn’t pertain to them. “We have natural segregation here,” Superintendent William Jansen said after Brown. “It’s accidental.”

Years of protests by black families in New York City culminated in the school boycott of 1964, when 460,000 students and their parents called on the Board of Education to formulate a school desegregation plan. But a month after the boycott, more than 10,000 white New Yorkers marched across the Brooklyn Bridge in a counter-protest. And over the next few years, the Board’s plan to integrate schools mostly fell apart.

Movements to desegregate schools in other Northern cities also faced opposition. In 1974, a federal court in Massachusetts ruled that Boston had intentionally segregated its schools. City officials had redrawn school districts to preserve segregated schools and had bused white students to majority-white schools. To remedy this, the Court ordered the city to bus black students to majority-white schools and white students to majority-black schools.

Violent riots erupted in response. White mobs threw rocks at buses carrying black students, damaging 18 buses and injuring nine children. Thousands of white parents kept their students home rather than send them to integrated schools.

In Boston and New York, many white parents said they supported integration but not busing kids out of neighborhoods. “No one in their right mind is against civil rights, against integration,” Louise Hicks, a leader of the movement against busing in Boston, said. “Only, let it come naturally.”

But many civil rights leaders, including Martin Luther King Jr. and Rosa Parks, who sparked the famous Montgomery bus boycott, frequently expressed frustration with Northerners who said they supported integration but fought to keep their cities and schools segregated (see “King Goes North,” facing page). In 1957, after moving from Montgomery, Alabama, to Detroit, Michigan, Parks described her new home city as the “Northern promised land that wasn’t.”

A More Complicated History

Congress passed the Fair Housing Act in 1968, prohibiting many of the discriminatory practices that segregated neighborhoods. However, the effects of those practices can still be felt today. Eight of the top 10 most segregated U.S. cities are in the North, according to a recent report by professors at Brown University and Florida State University. Black students are most likely to attend intensely segregated schools in New York, California, Maryland, and Illinois, according to a 2019 U.C.L.A. study.

Today, students are still demanding change. Earlier this school year, hundreds of New York City students protested admissions policies they say have contributed to the city's segregated schools.

All this may amount to another reason why we don't often hear about the Northern civil rights movement, says Theoharis: It forces us to acknowledge that we still have a long way to go.

"The way we tend to memorialize the Southern struggle is a sort of struggle and victory narrative," she says. "To talk about Northern racism and segregation and movements happening all across the country and not just in the deep South is to undercut the way the U.S. wants to think about its race problem."

10.1

Adding and Subtracting Polynomials

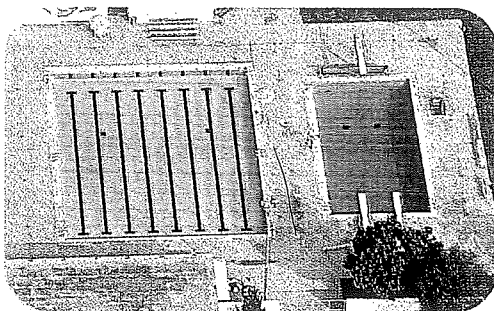
Goal

Add and subtract polynomials.

Key Words

- monomial
- degree of a monomial in one variable
- polynomial
- binomial
- trinomial
- standard form
- degree of a polynomial in one variable

How large is the walkway around a pool?



In Example 5 you will use subtraction of polynomials to find the area of a walkway around a pool.

A **monomial** is a number, a variable, or the product of a number and one or more variables with whole number exponents. The following expressions are monomials.

$$8 \quad -2x \quad 3x^2y \quad \frac{1}{2}x^2$$

The **degree of a monomial** is the sum of the exponents of the variables in the monomial. The degree of $3x^2$ is 2. The degree of $-6z^4$ is 4. The degree of $3x^2y$ is $2 + 1$, or 3.

Student Help

READING ALGEBRA

The monomial $-5x^4$ is read as “negative five times x to the fourth power.” The coefficient is -5 .

EXAMPLE 1 Find the Degree of a Monomial

State the degree of the monomial.

▶ a. $-5x^4$

b. $\frac{1}{2}b^3$

c. 12

Solution

a. The exponent of x is 4.

ANSWER ▶ The degree of the monomial is 4.

b. The exponent of b is 3.

ANSWER ▶ The degree of the monomial is 3.

c. Recall $12 = 12x^0$, so the exponent is 0.

ANSWER ▶ The degree of the monomial is 0.

Checkpoint Find the Degree of a Monomial

State the degree of the monomial.

1. $6x^3$

2. $4p$

3. -10

4. $-3a^5$

Student Help

► MORE EXAMPLES



More examples
are available at
www.mcdougallittell.com

POLYNOMIALS A **polynomial** is a monomial or a sum of monomials. A polynomial such as $x^2 + (-4x) + (-5)$ is usually written as $x^2 - 4x - 5$. Each of the following expressions is a polynomial.

$$4x^3 \quad x^3 - 8 \quad 7x^2 - 4x + 6$$

A polynomial of *two* terms is a **binomial**. A polynomial of *three* terms is a **trinomial**. Polynomials are usually written in **standard form**, which means that the terms are arranged in decreasing order, from largest exponent to smallest exponent. The **degree of a polynomial in one variable** is the largest exponent of that variable.

EXAMPLE 2 Identify Polynomials

POLYNOMIAL	DEGREE	IDENTIFIED BY DEGREE	IDENTIFIED BY NUMBER OF TERMS
a. 6	0	constant	monomial
b. $3x + 1$	1	linear	binomial
c. $-x^2 + 2x - 5$	2	quadratic	trinomial
d. $4x^3 - 8x$	3	cubic	binomial



Identify Polynomials

Identify the polynomial by degree and by the number of terms.

5. $8x$ 6. $10x - 5$ 7. $x^2 - 4x + 4$ 8. $-24 - x^3$

To add polynomials, you can use either a vertical format or a horizontal format, as shown in Example 3.

EXAMPLE 3 Add Polynomials

Find the sum. Write the answer in standard form.

a. $(5x^3 - 2x + x^2 + 7) + (3x^2 + 7 - 4x)$ b. $(2x^2 + x - 5) + (x + x^2 + 6)$

Solution

a. **Vertical format:** Write each expression in standard form. Line up like terms vertically.

$$\begin{array}{r} 5x^3 + x^2 - 2x + 7 \\ 3x^2 - 4x + 7 \\ \hline 5x^3 + 4x^2 - 6x + 14 \end{array}$$

b. **Horizontal format:** Group like terms.

$$\begin{aligned} (2x^2 + x - 5) + (x + x^2 + 6) &= (2x^2 + x^2) + (x + x) + (-5 + 6) \\ &= 3x^2 + 2x + 1 \end{aligned}$$

Student Help

► LOOK BACK

For help with combining like terms, see p. 108.



Add Polynomials

Find the sum. Write the answer in standard form.

9. $(x^2 + 3x + 2) + (2x^2 - 4x + 2)$ 10. $(2x^2 - 4x + 3) + (x^2 - 4x - 4)$

EXAMPLE 4 Subtract Polynomials

Find the difference. Write the answer in standard form.

a. $(-2x^3 + 5x^2 - 4x + 8) - (-2x^3 + 3x - 4)$

b. $(3x^2 - 5x + 3) - (2x^2 - x - 4)$

Solution

- a. Use a vertical format. To subtract one polynomial from another, you *add the opposite*. One way to do this is to multiply each term in the subtracted polynomial by -1 and line up like terms vertically. Then add.

$$\begin{array}{r} (-2x^3 + 5x^2 - 4x + 8) \\ -(-2x^3 + 3x - 4) \quad \text{Add the opposite.} \\ \hline \end{array} \quad \begin{array}{r} -2x^3 + 5x^2 - 4x + 8 \\ + 2x^3 - 3x + 4 \\ \hline 5x^2 - 7x + 12 \end{array}$$

- b. Use a horizontal format. Group like terms and simplify.

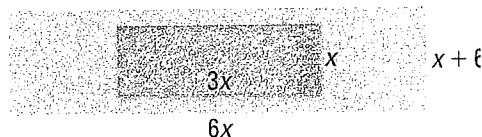
$$\begin{aligned} (3x^2 - 5x + 3) - (2x^2 - x - 4) &= 3x^2 - 5x + 3 - 2x^2 + x + 4 \\ &= (3x^2 - 2x^2) + (-5x + x) + (3 + 4) \\ &= x^2 - 4x + 7 \end{aligned}$$

Student Help**STUDY TIP**

Remember to change signs correctly.

EXAMPLE 5 Subtracting Polynomials

You are installing a swimming pool. Write a model for the area of the walkway.

**Solution**

VERBAL MODEL

$$\boxed{\text{Area of walkway}} = \boxed{\text{Total area}} - \boxed{\text{Area of pool}}$$

LABELS

Area of walkway = A (square inches)

Total area = $(6x)(x + 6)$ (square inches)

Area of pool = $(3x)(x)$ (square inches)

ALGEBRAIC MODEL

$$\begin{aligned} A &= (6x)(x + 6) - (3x)(x) \\ &= 6x^2 + 36x - 3x^2 \\ &= 3x^2 + 36x \end{aligned}$$

ANSWER ▶ A model for the area of the walkway is $A = 3x^2 + 36x$.

Checkpoint **Subtract Polynomials**

Find the difference. Write the answer in standard form.

11. $(2x^2 + 3x - 5) - (2x + 8 + x^2)$ 12. $(4x^3 + 4x^2 - x - 2) - (3x^3 - 2x^2 +$

10.1 Exercises

Guided Practice

Vocabulary Check

1. Is $-4x^2 + 5x - 3x^3 + 6$ written in standard form? Explain.
2. Is $9x^2 + 8x - 4x^3 + 3$ a polynomial with a degree of 2? Explain.

Skill Check

Identify the polynomial by degree and by the number of terms.

3. $-9y + 5$
4. $6x^3$
5. $12x^2 + 7x$
6. $4w^3 - 8w + 9$
7. $7y + 2y^3 - y^2$
8. -15

ERROR ANALYSIS In Exercises 9 and 10, find and correct the error.

9.

$$\begin{array}{r} 7x^3 - 3x^2 + 5 \\ + 2x^3 - 5x - 7 \\ \hline 9x^3 - 8x^2 - 2 \end{array}$$

10.

$$\begin{array}{r} (4x^2 - 9x) - (-8x^2 + 3x - 7) \\ = (4x^2 + 8x^2) + (-9x + 3x) - 7 \\ = 12x^2 - 6x - 7 \end{array}$$

Find the sum or the difference of the polynomials.

11. $(2x - 9) + (x - 7)$
12. $(7x - 3) - (9x - 2)$
13. $(x^2 - 4x + 3) + (3x^2 - 3x - 5)$
14. $(3x^2 + 2x - 4) - (2x^2 + x - 1)$

Practice and Applications

LOGICAL REASONING Complete the statement with *always*, *sometimes*, or *never*.

15. The terms of a polynomial are ? monomials.
16. Like terms ? have the same coefficient and same variable part.
17. The sum of two trinomials is ? a trinomial.
18. A binomial is ? a polynomial of degree 2.
19. Subtraction is ? addition of the opposite.

FINDING THE DEGREE State the degree of the monomial.

20. $8n$
21. $12b^4$
22. $-c^3$
23. $-100w^4$

Student Help

► HOMEWORK HELP

- Example 1: Exs. 20–23
Example 2: Exs. 24–32
Example 3: Exs. 33–50
Example 4: Exs. 33–50
Example 5: Exs. 51, 52

CLASSIFYING POLYNOMIALS Write the polynomial in standard form. Then identify the polynomial by degree and by the number of terms.

24. $2x$
25. $20m^3$
26. $7 - 3w$
27. -16
28. $8 + 5y^2 - 3y$
29. $-14 + 11y^3$
30. $-2x + 5x^3 - 6$
31. $-4b^2 + 7b^3$
32. $14w^2 + 9w^3$

VERTICAL FORMAT Use a vertical format to add or subtract.

33. $(12x^3 + x^2) - (18x^3 - 3x^2 + 6)$ 34. $(a + 3a^2 + 2a^3) - (a^2 - a^3)$
 35. $(2m - 8m^2 - 3) + (m^2 + 5m)$ 36. $(8y^2 + 2) + (5 - 3y^2)$
 37. $(3x^2 + 7x - 6) - (3x^2 + 7x)$ 38. $(4x^2 - 7x + 2) + (-x^2 + x - 2)$

HORIZONTAL FORMAT Use a horizontal format to add or subtract.

39. $(x^2 - 7) + (2x^2 + 2)$ 40. $(-3a^2 + 5) + (-a^2 + 4a - 6)$
 41. $(z^3 + z^2 + 1) - z^2$ 42. $12 - (y^3 + 10y + 16)$
 43. $(3n^2 + 2n - 7) - (n^3 - n - 2)$ 44. $(3a^3 - 4a^2 + 3) - (a^3 + 3a^2 - a - 4)$

POLYNOMIAL ADDITION AND SUBTRACTION Use a vertical format or a horizontal format to add or subtract.

45. $(9x^3 + 12x) + (16x^3 - 4x + 2)$ 46. $(-2t^4 + 6t^2 + 5) - (-2t^4 + 5t^2 + 1)$
 47. $(3x + 2x^2 - 4) - (x^2 + x - 6)$ 48. $(u^3 - u) - (u^2 + 5)$
 49. $(-7x^2 + 12) - (6 - 4x^2)$ 50. $(10x^3 + 2x^2 - 11) + (9x^2 + 2x - 1)$

Link to Careers

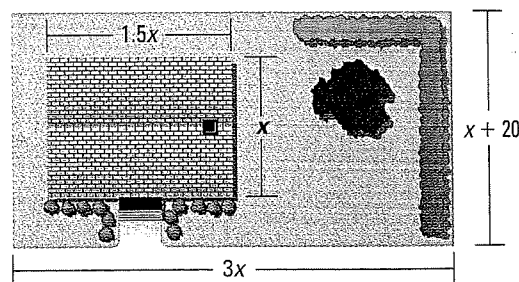


CONSTRUCTION

MANAGERS are responsible for coordinating and managing people, materials, and equipment; budgets, schedules, and contracts; and the safety of employees and the general public.

BUILDING A HOUSE In Exercises 51 and 52, use the following information. You plan to build a house that is 1.5 times as long as it is wide. You want the land around the house to be 20 feet wider than the width of the house, and twice as long as the length of the house, as shown in the figure below.

51. Write an expression for the area of the land surrounding the house.
 52. If $x = 30$ feet, what is the area of each floor of the house? What is the area of the entire property?



ENERGY USE In Exercises 53 and 54, use the following information. From 1989 through 1993, the amounts (in billions of dollars) spent on natural gas N and electricity E by United States residents can be modeled by the following equations, where t is the number of years since 1989.

► Source: U.S. Energy Information Administration

Gas spending model: $N = 1.488t^2 - 3.403t + 65.590$

Electricity spending model: $E = -0.107t^2 + 6.897t + 169.735$

53. Find a model for the total amount A (in billions of dollars) spent on natural gas and electricity by United States residents from 1989 through 1993.
 54. **CRITICAL THINKING** According to the models, will more money be spent on natural gas or on electricity in 2020. *HINT:* It may be helpful to graph the equations on a graphing calculator to answer this question.

10.2

Multiplying Polynomials

Goal

Multiply polynomials.

Key Words

FOIL pattern

What is the total area of a window?



First degree polynomials are often used to represent length and width. In Example 5 you will multiply two polynomials to find the area of a window.

In Lesson 2.6 you learned how to multiply a polynomial by a monomial by using the distributive property.

$$3(2x - 3) = (3)(2x) - (3)(3) = 6x - 9$$

In this lesson you will learn how to multiply two binomials by using the distributive property twice to multiply $(x + 4)(x + 5)$.

First distribute the binomial $(x + 5)$ to each term of $(x + 4)$.

$$(x + 4)(x + 5) = x(x + 5) + 4(x + 5)$$

Then distribute the x and the 4 to each term of $(x + 5)$.

$$= x(x) + x(5) + 4(x) + 4(5)$$

$$= x^2 + 5x + 4x + 20$$

Multiply.

$$= x^2 + 9x + 20$$

Combine like terms.

EXAMPLE 1 Use the Distributive Property

Find the product $(x + 2)(x - 3)$.

Solution

$$(x + 2)(x - 3)$$

$$x(x - 3) + 2(x - 3)$$

Distribute $(x - 3)$ to each term of $(x + 2)$.

$$x(x) + x(-3) + 2(x) + 2(-3)$$

Distribute x and 2 to each term of $(x - 3)$.

$$x^2 - 3x + 2x - 6$$

Multiply.

$$x^2 - x - 6$$

Combine like terms.

Student Help

LOOK BACK

For help with the distributive property, see p. 101.

Checkpoint

Use the Distributive Property

Use the distributive property to find the product.

1. $(x + 1)(x + 2)$

2. $(x - 2)(x + 4)$

3. $(2x + 1)(x + 2)$

Student Help

► MORE EXAMPLES

More examples are available at www.mcdougallittell.com

FOIL PATTERN In using the distributive property for multiplying two binomials, you may have noticed the following pattern. Multiply the **F**irst, **O**uter, **I**nnner, and **L**ast terms. Then combine like terms. This pattern is called the **FOIL pattern**.

$$\begin{array}{ccccccc}
 & \text{Product of} & \text{Product of} & \text{Product of} & \text{Product of} & & \\
 & \text{First terms} & \text{Outer terms} & \text{Inner terms} & \text{Last terms} & & \\
 (3x + 4)(x + 5) & = 3x^2 + 15x + 4x + 20 & & & & & \\
 & = 3x^2 + 19x + 20 & \text{Combine like terms.} & & & &
 \end{array}$$

EXAMPLE 2 Multiply Binomials Using the FOIL Pattern

$$\begin{array}{ccccccc}
 & & \text{F} & & \text{O} & & \text{I} & & \text{L} \\
 & & \downarrow & & \downarrow & & \downarrow & & \downarrow \\
 (2x + 3)(2x + 1) & = & 4x^2 & + & 2x & + & 6x & + & 3 \\
 & = & 4x^2 & + & 8x & + & 3 & \text{Combine like terms.}
 \end{array}$$

Checkpoint Multiply Binomials Using the FOIL Pattern

Use the FOIL pattern to find the product.

4. $(x + 1)(x - 4)$

5. $(2x - 3)(x - 1)$

6. $(x - 2)(2x + 1)$

To multiply two polynomials that have three or more terms, remember that *each term of one polynomial must be multiplied by each term of the other polynomial*. Use a vertical or a horizontal format. Write each polynomial in standard form.

EXAMPLE 3 Multiply Polynomials Vertically

Find the product $(x - 2)(5 + 3x - x^2)$.

Solution

Line up like terms vertically. Then multiply as shown below.

$$\begin{array}{r}
 -x^2 + 3x + 5 \quad \text{Standard form} \\
 \times \quad \quad \quad x - 2 \quad \text{Standard form} \\
 \hline
 2x^2 - 6x - 10 \quad \leftarrow -2(-x^2 + 3x + 5) \\
 -x^3 + 3x^2 + 5x \quad \leftarrow x(-x^2 + 3x + 5) \\
 \hline
 -x^3 + 5x^2 - x - 10 \quad \text{Combine like terms.}
 \end{array}$$

Checkpoint Multiply Polynomials Vertically

Use a vertical format to find the product.

7. $(x + 1)(x^2 + 3x - 2)$ 8. $(2x - 1)(2x^2 + x - 3)$ 9. $(2x - 3)(3x^2 + x - 4)$

EXAMPLE 4 Multiply Polynomials Horizontally

Find the product $(4x^2 - 3x - 1)(2x - 5)$.

Solution Multiply $2x - 5$ by each term of $4x^2 - 3x - 1$.

$$(4x^2 - 3x - 1)(2x - 5)$$

$$4x^2(2x - 5) - 3x(2x - 5) - 1(2x - 5)$$

Use distributive property.

$$8x^3 - 20x^2 - 6x^2 + 15x - 2x + 5$$

Use distributive property.

$$8x^3 + (-20x^2 - 6x^2) + (15x - 2x) + 5$$

Group like terms.

$$8x^3 - 26x^2 + 13x + 5$$

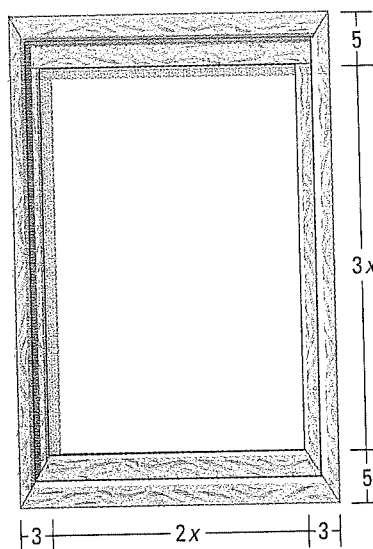
Combine like terms.

EXAMPLE 5 Multiply Binomials to Find an Area

The glass has a height-to-width ratio of 3 : 2. The frame adds 6 inches to the width and 10 inches to the height. Write a polynomial expression that represents the total area of the window, including the frame.

Solution

The window has a total height of $3x + 10$ and a total width of $2x + 6$. The area of the window is represented by the product of the height and width.



$$A = \text{height} \cdot \text{width}$$

Write area model for a rectangle.

$$A = (3x + 10)(2x + 6)$$

Substitute $(3x + 10)$ for height and $(2x + 6)$ for width.

$$= 6x^2 + 18x + 20x + 60$$

Use FOIL pattern.

$$= 6x^2 + 38x + 60$$

Combine like terms.

ANSWER ▶ The area of the window can be represented by the model $A = 6x^2 + 38x + 60$.

Checkpoint **Multiply Polynomials**

In Exercises 10–12, use a horizontal format to find the product.

10. $(x - 4)(x^2 + x + 1)$ 11. $(x + 5)(x^2 - x - 3)$ 12. $(2x + 1)(3x^2 + x - 1)$

13. Suppose the height-to-width ratio of the glass portion of the window in Example 5 above were 5 : 3. Write a model to represent the total area.

10.2 Exercises

Guided Practice

Vocabulary Check

1. How do the letters in “FOIL” help you remember how to multiply two binomials?
2. Give an example of a monomial, a binomial, and a trinomial.

Skill Check

Copy the equation and fill in the blanks.

3. $(x - 2)(x + 3) = x(\underline{\quad}) + (-2)(\underline{\quad})$
4. $(3x + 4)(2x - 1) = 3x(\underline{\quad}) + 4(\underline{\quad})$
5. $(x - 3)(x + 1) = x^2 - 2x - \underline{\quad}$
6. $(x + 2)(x + 6) = x^2 + \underline{\quad} + 12$
7. $(x - 4)(x - 5) = x^2 - 9x + \underline{\quad}$
8. $(x + 2)(2x + 1) = \underline{\quad} + 5x + 2$

Use the distributive property to find the product.

9. $(4x + 7)(-2x)$
10. $2x(x^2 + x - 5)$
11. $-4x^2(3x^2 + 2x - 6)$
12. $(a + 4)(a + 5)$
13. $(y - 2)(y + 8)$
14. $(2x + 3)(4x + 1)$

Use the FOIL pattern to find the product.

15. $(w - 3)(w + 5)$
16. $(x + 6)(x + 9)$
17. $(x - 4)(8x + 3)$
18. $(x - 3)(x + 4)$
19. $(x + 8)(x - 7)$
20. $(3x - 4)(2x - 1)$

Practice and Applications

MULTIPLYING EXPRESSIONS Find the product.

21. $(2x - 5)(-4x)$
22. $3t^2(7t - t^3 - 3)$
23. $2x(x^2 - 8x + 1)$
24. $(-y)(6y^2 + 5y)$
25. $4w^2(3w^3 - 2w^2 - w)$
26. $-b^2(6b^3 - 16b + 11)$

DISTRIBUTIVE PROPERTY Use the distributive property to find the product.

27. $(t + 8)(t + 5)$
28. $(x + 6)(x - 2)$
29. $(d - 5)(d + 3)$
30. $(a + 8)(a - 3)$
31. $(y + 2)(2y + 1)$
32. $(m - 2)(4m + 3)$
33. $(3s - 1)(s + 2)$
34. $(2d + 3)(3d + 1)$
35. $(4y - 7)(2y - 1)$

Student Help

► HOMEWORK HELP

Example 1: Exs. 21–35
Example 2: Exs. 36–47
Example 3: Exs. 48–51
Example 4: Exs. 52–55
Example 5: Exs. 56–60

USING THE FOIL PATTERN Use the FOIL pattern to find the product.

36. $(a + 6)(a + 7)$
37. $(y + 5)(y - 8)$
38. $(x + 6)(x - 6)$
39. $(2w - 5)(w + 5)$
40. $(4b - 1)(b - 6)$
41. $(x - 9)(2x + 15)$
42. $(3a - 1)(a - 9)$
43. $(2z + 7)(3z + 2)$
44. $(4q - 1)(3q + 8)$
45. $(5t - 3)(2t + 3)$
46. $(4x + 5)(4x - 3)$
47. $(9w - 5)(7w - 12)$

MULTIPLYING EXPRESSIONS Use a vertical format to find the product.

48. $(x + 2)(x^2 + 3x + 5)$

49. $(d - 5)(d^2 - 2d - 6)$

50. $(a - 3)(a^2 - 4a - 6)$

51. $(2x + 3)(3x^2 - 4x + 2)$

MULTIPLYING EXPRESSIONS Use a horizontal format to find the product.

52. $(x + 4)(x^2 - 2x + 3)$

53. $(a - 2)(a^2 + 6a - 7)$

54. $(m^2 + 2m - 9)(m - 4)$

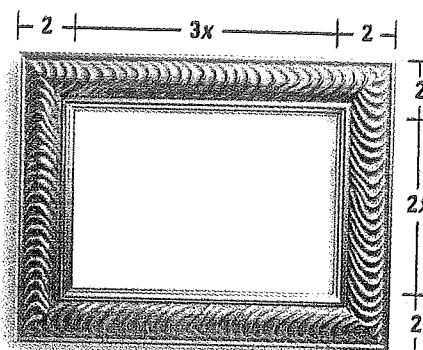
55. $(4y^2 - 3y - 2)(y + 12)$

Link to Careers



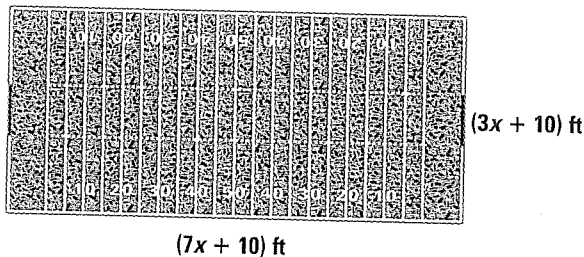
PICTURE FRAMERS use math when deciding on the dimensions of the frame, the matting, and the glass.

56. **PICTURE FRAME** The diagram at the right shows the dimensions of a picture frame. The glass has a height-to-width ratio of 2 : 3. The frame adds 4 inches to the width and 4 inches to the height. Write a polynomial expression that represents the total area of the picture, including the frame.



FOOTBALL In Exercises 57 and 58, a football field's dimensions are represented by a width of $(3x + 10)$ feet and a length of $(7x + 10)$ feet.

57. Find an expression for the area A of the football field. Give your answer as a quadratic trinomial.



58. An actual football field is 160 feet wide and 360 feet long. For what value of x do the expressions $3x + 10$ and $7x + 10$ give these dimensions?

VIDEOCASSETTES In Exercises 59 and 60, use the following information about videocassette sales from 1987 to 1996, where t is the number of years since 1987. The number of blank videocassettes B sold annually in the United States can be modeled by $B = 15t + 281$, where B is measured in millions. The wholesale price P for a videocassette can be modeled by $P = -0.21t + 3.52$, where P is measured in dollars.

► Source: EIA Market Research Department

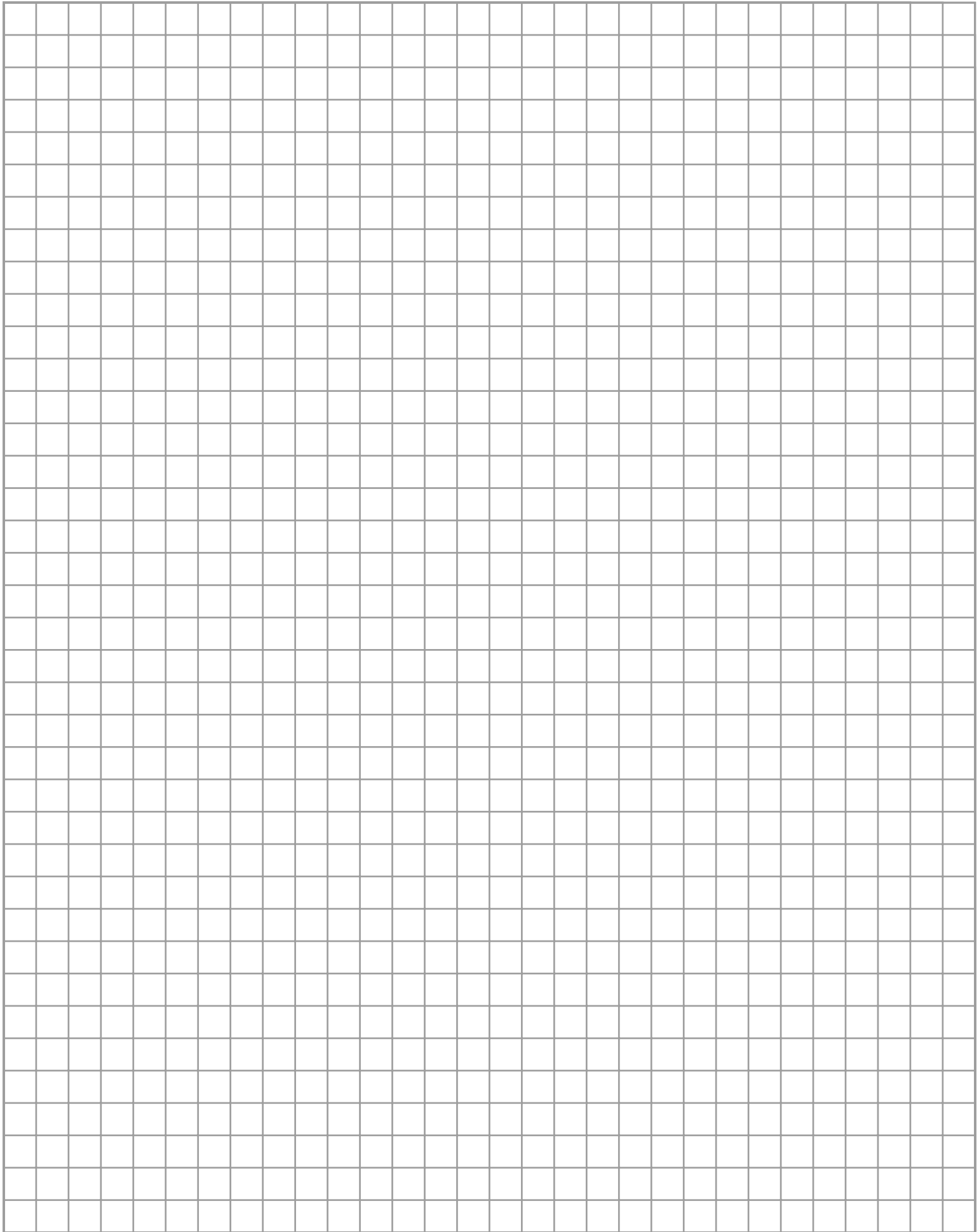
59. Find a model for the revenue R from sales of blank videocassettes. Give the model as a quadratic trinomial.
60. What conclusions can you make from your model about the revenue over time?
61. **LOGICAL REASONING** Find the product $(2x + 1)(x + 3)$ using the distributive property and explain how this leads to the FOIL pattern.

Student Help

► HOMEWORK HELP



Help with problem solving in Exs. 59 and 60 is available at www.mcdougallittell.com



1 Block = $\frac{1}{4}$ "



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings present.

Defying the Odds in Afghanistan

In a country plagued by war and poverty, a school with no electricity, no heat, and no computers sends more than 90 percent of its students on to college

October 7, 2019 *New York Times Upfront* magazine By Rod Nordland

The girls begin appearing at about seven in the morning. Seen from a distance, they make up thin blue lines snaking across the barren tan mountainside along narrow trails traced in the dirt. They converge from several directions on the little school in the bottom of the valley.

Many of the girls, wearing powder-blue school uniforms and white head scarves and ranging in age from 7 to 18, have already been walking for an hour or more by the time they arrive at the school. There are smaller groups of boys too, mostly out of uniform, walking apart from the girls.

By 7:45, they are all gathered for assembly in the yard of the Rustam School, in a remote corner of Afghanistan's Yakawlang District. It is the area's only high school and serves students in 1st through 12th grade. It has an enrollment of 330 girls and 146 boys—astonishing in a country where normally only a third of girls attend school.

The principal, Mohammad Sadiq Nasiri, 49, gives his daily pep talk: Getting into a university is going to be harder than ever this year, so they are going to have to do better than ever.

Rustam may seem an unlikely place to encourage collegiate dreams. With seven crude stone classrooms, supplemented by six big tents, there are so many students that school is divided into separate morning and afternoon sessions only four hours long.

There is no electricity, heat, computers, or copy machines. Many school materials are written out in longhand by teachers. Foreign aid once helped but has dried up. One teacher says she has fewer books than students.

Only 5 percent of the students have parents who can read and write, Nasiri says. Most are the children of subsistence farmers. Yet Rustam's 2017 graduating class saw 60 of 65 graduates accepted to Afghanistan's public universities, a 92 percent college entrance rate. Two-thirds of those accepted were girls.

Unlike most Afghan schools, Rustam mixes boys and girls in its classrooms. "Men and women are equal," the principal says. "They have the same brains and the same bodies."

He adds, "We tell these boys and girls, there is no difference between you guys, and you will all be together when you go to college, so you need to learn how to respect one another."

40 Years of War

The school is an oasis of calm and hope in a country that has essentially been at war for 40 years. The fighting and instability began with the Soviet invasion of Afghanistan in 1979 (see Key Dates, below). The Taliban, an extremist group with a very rigid interpretation of how Islam should be practiced, took control in 1996.

Life under the Taliban was hard. They persecuted the country's few religious minorities. They banned music and TV. They forbade men from wearing neckties and required them to grow beards. But it was

women who fared the worst. Girls older than 8 were prohibited from going to school. Women were barred from most jobs and told they must wear a burqa, a head-to-toe covering, when they left their houses.

Although swiftly driven from power by U.S.-led forces in 2001, the Taliban have proved to be an adept guerrilla insurgency, and U.S. troops are still fighting them, even as peace negotiations have recently taken place (see “America’s Longest War,” below). Despite billions of dollars in foreign aid to rebuild the country, much of Afghanistan’s infrastructure—including its education system—is still in tatters.

Rustam School is an exception. One day late in the spring term, Badan Joya, 1 of 5 female teachers among the school’s 12, is teaching a fourth-grade math class in one of the overflow tents. A piece of cardboard painted black serves as a chalkboard, with simple algebra formulas scribbled on it. She asks her students, nearly all girls, to name their favorite subject. They reply in unison: “Math.”

That isn’t surprising at Rustam; 40 percent of questions on the college entrance exams cover mathematics, more than any other subject. And the girls excel.

The top student in 11th-grade math, based on test scores, is Shahrbano Hakimi, 17. She’s also the top student in her computer class, where, on that recent day, the girls were studying the Windows operating system—from books.

Only 1 of the 60 students in the class has a computer at home.

“The thing I wish for most in the world,” Shahrbano says, “is a laptop.”

A Passion for Education

The local passion for education, especially among girls, is a reaction to the Taliban era, when it was banned, their teachers say. The fourth-grade math teacher, Joya, who is 28, didn’t begin school herself until the Taliban fell when she was 11. Until then, she couldn’t read or write, and her only schooling had been sewing class.

“I had to start from zero,” she says. “We tell them about the Taliban and what they did to us, and say, ‘You have an opportunity now; you should take it.’ They’re listening. They hear about it at home too, from their mothers and aunts.”

The area around Rustam is now free of the Taliban and little touched by violence. In other areas of the country, families are reluctant to send girls to school, especially over long distances in rural parts.

The girls at Rustam are highly motivated. In every subject except Islamic studies, nearly all the top students are girls.

“Honestly, girls are better than boys; they are more serious,” says Nasiri, the principal. “These kids all know that you can’t make a slave out of someone who is educated.”

One day Nasiri noticed one of his students, 13-year-old Friha, hiding behind other girls during assembly because she was out of uniform. Her family was too poor to buy one. So he bought a swatch of blue cotton in the nearest bazaar. Joya, the math teacher, sewed a tunic from it, using her Taliban-era skills. Nasiri, who earns less than \$200 a month, had to borrow the money to buy the cotton.

In addition to running the school for the past six years, Nasiri has supported four daughters and two sons with his wife, Roya, 45. They married during Taliban times; he taught his wife to read and write.

“We discussed it and decided she should go to school,” he says. “Children will do better when their mom is educated.”

This year Roya graduated from high school, and next year she will take the college entrance exams, Nasiri says proudly.

“She raised six children,” he says. “Now she raises herself.”

Across from Rustam School, there’s a rocky mountainside where sheep graze, watched by shepherds. Hundreds of feet up the hillside, one of the shepherds carries a pen and a Pashto language workbook. Her name is Nikbakht, she says, and she is 13. She should be at Rustam, but work comes first.

“I love school, but no one else was home, so I had to work with the animals,” she explains.

Pashto, one of Afghanistan’s main languages, is a required subject, but it’s not her favorite, Nikbakht says. Her favorite is math.

‘I am so proud’

Shahrbano, the student who wishes for a laptop, dreams of becoming a doctor, in part because her mother suffers from vision problems and her father is nearly deaf at age 65. Both are illiterate. Outside their mud-walled home, a waterwheel on a nearby irrigation ditch turns a small generator, just enough to power lights at night, for studying.

“I’m not educated,” says her father, Ghulam Hussein. “I’m just a farm laborer. I don’t want them to have the same life.”

The family is also an example of why fewer boys are in school. Hussein’s son Ali, 9, stays home to help his parents, while his older son Reza, 12, works in the fields. “Ali wants so badly to go to school,” says his mother, Zenat. “Maybe next year.” All the daughters, though, are in school.

Of their 11 children, a son and two daughters have already reached college. Zenat can’t hide her family’s sense of accomplishment.

“I am so proud of them,” she says.

10.4

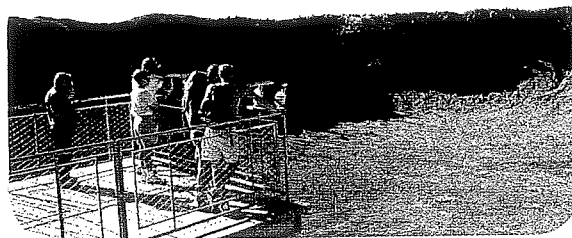
Solving Quadratic Equations in Factored Form

Goal

Solve quadratic equations in factored form.

Key Words

- factored form
- zero-product property

How deep is a crater?

In Exercises 50 and 51 you will solve a quadratic equation to find the depth of the Barringer Meteor Crater.

A polynomial is in **factored form** if it is written as the product of two or more factors. The polynomials in the following equations are written in factored form.

$$x(x - 7) = 0 \quad (x + 2)(x + 5) = 0 \quad (x + 1)(x - 3)(x + 8) = 0$$

A value of x that makes any of the factors zero is a solution of the polynomial equation. That these are the *only* solutions follows from the **zero-product property**, stated below.

ZERO-PRODUCT PROPERTY

Let a and b be real numbers. If $ab = 0$, then $a = 0$ or $b = 0$.

If the product of two factors is zero, then at least one of the factors must be zero.

EXAMPLE 1 Using the Zero-Product Property

Solve the equation $(x - 2)(x + 3) = 0$.

Solution

$$(x - 2)(x + 3) = 0$$

Write original equation.

$$x - 2 = 0 \quad \text{or} \quad x + 3 = 0$$

Set each factor equal to 0.

$$x = 2 \quad | \quad x = -3$$

Solve for x .

ANSWER ▶ The solutions are 2 and -3 . Check these in the original equation.

Student Help**STUDY TIP**

The fact that the solutions 2 and -3 in Example 1 are the *only* solutions is a consequence of the zero-product property.

**Checkpoint****Solution by Factoring**

Solve the equation and check the solutions.

1. $(x + 1)(x - 3) = 0$

2. $x(x - 2) = 0$

3. $(x - 5)(x + 7) = 0$

Student Help

▶ MORE EXAMPLES



More examples
are available at
www.mcdougallittell.com

EXAMPLE 2 Solve a Repeated-Factor Equation

Solve $(x + 5)^2 = 0$.

Solution

This equation is a square of a binomial, so the factor $(x + 5)$ is a *repeated* factor. Repeated factors are used twice or more in an equation. To solve this equation you set $(x + 5)$ equal to zero.

$$(x + 5)^2 = 0 \quad \text{Write original equation.}$$

$$x + 5 = 0 \quad \text{Set factor equal to 0.}$$

$$x = -5 \quad \text{Solve for } x.$$

ANSWER ▶ The solution is -5 .

CHECK ✓ Substitute the solution into the original equation to check.

$$(x + 5)^2 = 0 \quad \text{Write original equation.}$$

$$(-5 + 5)^2 = 0 \quad \text{Substitute } -5 \text{ for } x.$$

$$0 = 0 \quad \text{Simplify. Solution is correct.}$$

Checkpoint

Solve a Repeated-Factor Equation

Solve the equation and check the solutions.

4. $(x - 4)^2 = 0$

5. $(x + 6)^2 = 0$

6. $(2x - 5)^2 = 0$

EXAMPLE 3 Solve a Factored Cubic Equation

Solve $(2x + 1)(3x - 2)(x - 1) = 0$.

Solution

$$(2x + 1)(3x - 2)(x - 1) = 0$$

Write original
equation.

$$2x + 1 = 0 \quad \text{or} \quad 3x - 2 = 0 \quad \text{or} \quad x - 1 = 0$$

Set factors equal to 0.

$$2x = -1$$

$$3x = 2$$

$$x = 1$$

Solve for x .

$$x = -\frac{1}{2}$$

$$x = \frac{2}{3}$$

ANSWER ▶ The solutions are $-\frac{1}{2}$, $\frac{2}{3}$, and 1. Check these in the original equation.

Checkpoint

Solve a Factored Cubic Equation

Solve the equation and check the solutions.

7. $(x - 4)(x + 6)(4x + 3) = 0$

8. $(x - 3)(x + 6)(3x + 2) = 0$

9. $(2x + 1)(x - 8)^2 = 0$

10. $(y - 3)^2(3y - 2) = 0$

10.4 Exercises

Guided Practice

Vocabulary Check

1. What is the zero-product property?

2. Is $(x - 2)(x^2 - 9) = 0$ in factored form? Explain.

Skill Check

3. Are -5 , 2 , and 3 the solutions of $3(x - 2)(x + 5) = 0$? Explain.

4. **ERROR ANALYSIS** Find and correct the error at the right.

$$\begin{array}{l} \cancel{(2x + 4)(x - 2) = 0} \\ \cancel{2x + 4 = 0 \quad \text{or} \quad x - 2 = 0} \\ \cancel{2x = 4 \quad \quad \quad x = 2} \\ \cancel{x = 2} \end{array}$$

Does the graph of the function have x -intercepts of 4 and -5 ?

5. $y = 2(x + 4)(x - 5)$

6. $y = 4(x - 4)(x - 5)$

7. $y = -(x - 4)(x + 5)$

8. $y = 3(x + 5)(x - 4)$

Use the zero-product property to solve the equation.

9. $(b + 1)(b + 3) = 0$

10. $(t - 3)(t - 5) = 0$

11. $(x - 7)^2 = 0$

12. $(y + 9)(y - 2)(y - 5) = 0$

13. Sketch the graph of $y = (x + 2)(x - 2)$. Label the vertex and the x -intercepts.

Practice and Applications

ZERO-PRODUCT PROPERTY Use the zero-product property to solve the equation.

14. $(x + 4)(x + 1) = 0$

15. $(t + 8)(t - 6) = 0$

16. $x(x + 8) = 0$

17. $(y + 3)^2 = 0$

18. $(b - 9)(b + 8) = 0$

19. $(d + 7)^2 = 0$

20. $(y - 2)(y + 1) = 0$

21. $(z + 2)(z + 3) = 0$

22. $(v - 7)(v - 5) = 0$

23. $(w - 17)^2 = 0$

24. $p(2p + 1) = 0$

25. $4(c + 9)^2 = 0$

26. $(z + 9)(z - 11) = 0$

27. $(a - 20)(a + 15) = 0$

28. $(d + 6)(3d - 4) = 0$

Student Help

► HOMEWORK HELP

Example 1: Exs. 14–36

Example 2: Exs. 14–36

Example 3: Exs. 29–36

Example 4: Exs. 37–45

Example 5: Exs. 46–51

SOLVING FACTORED CUBIC EQUATIONS Solve the equation.

29. $(x + 1)(x + 2)(x - 4) = 0$

30. $y(y - 4)(y - 8) = 0$

31. $(a + 5)(a - 6)^2 = 0$

32. $r(r - 12)^2 = 0$

33. $5(d + 8)(d - 12)(d + 9) = 0$

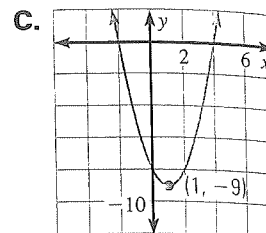
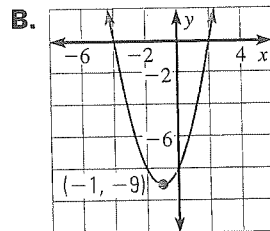
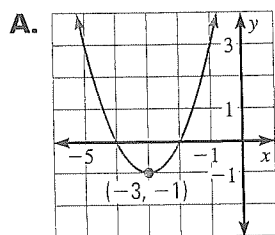
34. $8(n + 9)(n - 9)(n + 12) = 0$

35. $(b - 8)(2b + 1)(b + 2) = 0$

36. $(y - 5)(y - 6)(3y - 2) = 0$

MATCHING FUNCTIONS AND GRAPHS Match the function with its graph.

37. $y = (x + 2)(x - 4)$ 38. $y = (x - 2)(x + 4)$ 39. $y = (x + 4)(x + 2)$



SKETCHING GRAPHS Find the x -intercepts and the vertex of the graph of the function. Then sketch the graph of the function.

40. $y = (x - 4)(x + 2)$ 41. $y = (x + 5)(x + 3)$ 42. $y = (x - 3)(x + 3)$

43. $y = (x - 1)(x + 7)$ 44. $y = (x - 2)(x - 6)$ 45. $y = (x + 4)(x + 3)$

Student Help

HOMEWORK HELP

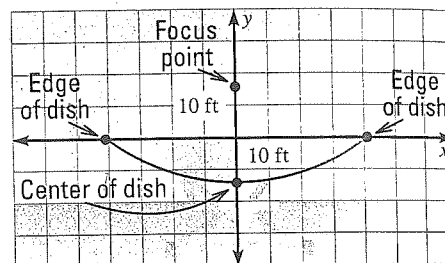
Extra help with problem solving in Exs. 46–51 is available at www.mcdougallittell.com

VLA TELESCOPE In Exercises 46 and 47, use the cross section of one of the Very Large Array's telescope dishes shown below.

The cross section of the telescope's dish can be modeled by the polynomial function

$$y = \frac{14}{41^2}(x + 41)(x - 41)$$

where x and y are measured in feet, and the center of the dish is at $x = 0$.



46. Find the width of the dish. Explain your reasoning.

47. Use the model to find the coordinates of the center of the dish.

GATEWAY ARCH In Exercises 48 and 49, use the following information.

The Gateway Arch in St. Louis, Missouri, has the shape of a catenary (a U-shaped curve similar to a parabola). It can be approximated by the following model, where x and y are measured in feet. ▶Source: National Park Service

Gateway Arch model: $y = -\frac{7}{1000}(x + 300)(x - 300)$

48. How far apart are the legs of the arch at the base?

49. How high is the arch?

BARRINGER METEOR CRATER In Exercises 50 and 51, use the following equation which models a cross section of the Barringer Meteor Crater, near Winslow, Arizona. Note that x and y are measured in meters and the center of the crater is at $x = 0$. ▶Source: Jet Propulsion Laboratory

Barringer Meteor model: $y = \frac{1}{1800}(x - 600)(x + 600)$

50. Assuming the lip of the crater is at $y = 0$, how wide is the crater?

51. What is the depth of the crater?

Link to Science



THE BARRINGER METEOR CRATER was formed about 49,000 years ago when a nickel and iron meteorite struck the desert at about 25,000 miles per hour.

10.5

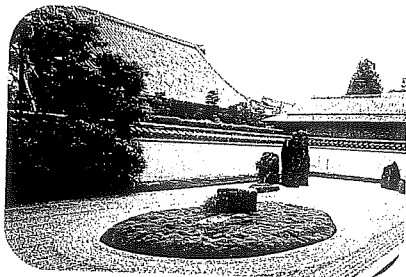
Factoring $x^2 + bx + c$

Goal

Factor trinomials of the form $x^2 + bx + c$.

Key Words

- factor a trinomial
- factored form

How wide should the border of a garden be?

In Example 7 you will factor a quadratic equation to find the width of a border around a garden.

A trinomial of the form $x^2 + bx + c$, where b and c are integers is shown below.

$$x^2 + 9x + 14, \quad b = 9, \quad c = 14$$

To factor a trinomial of this form means to write the trinomial as the product of two binomials (factored form).

Trinomial		Factored Form
$x^2 + 9x + 14$	=	$(x + 2)(x + 7)$
$x^2 - x - 12$	=	$(x + 3)(x - 4)$
$x^2 - 2x - 15$	=	$(x + 3)(x - 5)$

In order to write $x^2 + bx + c$ in the form $(x + p)(x + q)$, note that

$$(x + p)(x + q) = x^2 + (p + q)x + pq$$

This leads you to seek numbers p and q such that $p + q = b$ and $pq = c$.

EXAMPLE 1 Factor when b and c Are Positive

Factor $x^2 + 6x + 8$.

Solution

The first term of each binomial factor is x . For this trinomial, $b = 6$ and $c = 8$. You need to find numbers p and q whose product is 8 and whose sum is 6.

p and q	$p + q$
1, 8	9
2, 4	6

The numbers you need are 2 and 4.

ANSWER $\triangleright x^2 + 6x + 8 = (x + 2)(x + 4)$. Check your answer by multiplying.

**Checkpoint** Factor when b and c Are Positive

Factor the trinomial.

1. $x^2 + 4x + 3$

2. $x^2 + 5x + 6$

3. $x^2 + 8x + 7$

4. $x^2 + 7x + 6$

Student Help

STUDY TIP

When the constant term c of a trinomial is positive, you will need two numbers with the same sign.

EXAMPLE 2 Factor when b Is Negative and c Is Positive

Factor $x^2 - 5x + 6$.

Solution

The first term of each binomial factor is x .

$$(x \quad)(x \quad)$$

For this trinomial, $b = -5$ and $c = 6$. Because c is positive, you need to find numbers p and q with the same sign. Find numbers p and q whose sum is -5 and whose product is 6 .

p and q	$p + q$	
$-1, -6$	-7	
$-2, -3$	-5	The numbers you need are -2 and -3 .

ANSWER $\triangleright x^2 - 5x + 6 = (x - 2)(x - 3)$. Check your answer by multiplying.

Checkpoint Factor when b Is Negative and c Is Positive

Factor the trinomial.

5. $x^2 - 5x + 4$ 6. $x^2 - 4x + 4$ 7. $x^2 - 8x + 7$ 8. $x^2 - 7x + 12$

Student Help

STUDY TIP

When the constant term c of a trinomial is negative, you will need two numbers with different signs.

EXAMPLE 3 Factor when b and c Are Negative

Factor $x^2 - 11x - 12$.

Solution

The first term of each binomial factor is x .

$$(x \quad)(x \quad)$$

For this trinomial, $b = -11$ and $c = -12$. Because c is negative, you need to find numbers p and q with different signs. Find numbers p and q whose sum is -11 and whose product is -12 .

p and q	$p + q$	
$-1, 12$	11	
$1, -12$	-11	The numbers you need are 1 and -12 .

ANSWER $\triangleright x^2 - 11x - 12 = (x + 1)(x - 12)$. Check your answer by multiplying.

Checkpoint Factor when b and c Are Negative

Factor the trinomial.

9. $x^2 - 5x - 6$ 10. $x^2 - 3x - 10$ 11. $x^2 - 13x - 14$ 12. $x^2 - 6x - 7$

Student Help

STUDY TIP

As soon as you find the correct pair of numbers for a trinomial, you can stop listing all possible pairs. For example, in Example 4, you do not need the pairs -2 and 9 , 2 and -9 , -3 and 6 , or 3 and -6 .

EXAMPLE 4 Factor when b Is Positive and c Is Negative

Factor $x^2 + 17x - 18$.

Solution

The first term of each binomial factor is x .

$$(x \quad)(x \quad)$$

For this trinomial, $b = 17$ and $c = -18$. Because c is negative, you need to find numbers p and q with different signs. Find numbers p and q whose sum is 17 and whose product is -18 .

p and q	$p + q$
-------------	---------

$1, -18$	-17
----------	-------

$-1, 18$	17
----------	------

The numbers you need are -1 and 18 .

ANSWER $\triangleright x^2 + 17x - 18 = (x - 1)(x + 18)$.

Checkpoint Factor when b Is Positive and c Is Negative

Factor the trinomial.

13. $x^2 + x - 6$ 14. $x^2 + 2x - 8$ 15. $x^2 + 8x - 20$ 16. $x^2 + 3x - 10$

EXAMPLE 5 Check Using a Graphing Calculator

Factor $x^2 - 2x - 8$.

Solution

The first term of each binomial factor is x .

$$(x \quad)(x \quad)$$

For this trinomial, $b = -2$ and $c = -8$. Because c is negative, you need to find numbers p and q with different signs. Find numbers p and q whose sum is -2 and whose product is -8 .

p and q	$p + q$
-------------	---------

$-1, 8$	7
---------	-----


$1, -8$	-7
---------	------

$-2, 4$	2
---------	-----

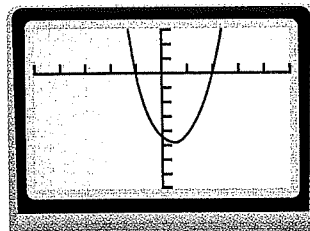
$2, -4$	-2
---------	------

The numbers you need are 2 and -4 .

ANSWER $\triangleright x^2 - 2x - 8 = (x + 2)(x - 4)$.

CHECK  Use a graphing calculator.

Graph $y = x^2 - 2x - 8$ and $y = (x + 2)(x - 4)$ on the same screen. The graphs are the same, so your answer is correct.



Student Help

► MORE EXAMPLES



More examples
are available at
www.mcdougallittell.com

EXAMPLE 6 Solve a Quadratic Equation

Solve $x^2 - 3x = 10$ by factoring.

Solution

$$x^2 - 3x = 10$$

Write equation.

$$x^2 - 3x - 10 = 0$$

Write in standard form.

$$(x - 5)(x + 2) = 0$$

Factor left side.

$$x - 5 = 0 \quad \text{or} \quad x + 2 = 0$$

Use zero-product property.

$$x = 5 \quad \text{or} \quad x = -2$$

Solve for x .

ANSWER ► The solutions are 5 and -2 . Check these in the original equation.

Link to Careers



LANDSCAPE DESIGNERS

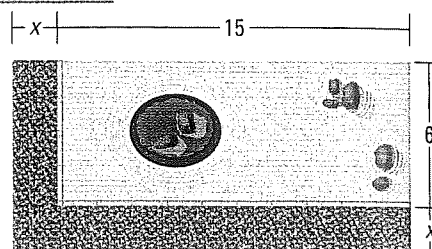
plan and map out the appearance of outdoor spaces like parks, gardens, golf courses, and other recreational areas.



More about landscape
designers available at
www.mcdougallittell.com

EXAMPLE 7 Write a Quadratic Model

LANDSCAPE DESIGN You are putting a stone border along two sides of a rectangular Japanese garden that measures 6 yards by 15 yards. Your budget limits you to only enough stone to cover 46 square yards. How wide should the border be?



Solution

$$\boxed{\text{Area of border}} = \boxed{\text{Total area}} - \boxed{\text{Garden area}}$$

$$46 = (x + 15)(x + 6) - (15)(6)$$

Write quadratic model.

$$46 = x^2 + 6x + 15x + 90 - 90$$

Multiply.

$$46 = x^2 + 21x$$

Combine like terms.

$$0 = x^2 + 21x - 46$$

Write in standard form.

$$0 = (x + 23)(x - 2)$$

Factor.

$$x + 23 = 0 \quad \text{or} \quad x - 2 = 0$$

Use zero-product property.

$$x = -23 \quad \text{or} \quad x = 2$$

Solve for x .

The solutions are -23 and 2 . Only $x = 2$ is a reasonable solution, because negative values for dimension do not make sense.

ANSWER ► The border should be 2 yards wide.

Checkpoint Solve a Quadratic Equation

Solve the equation by factoring.

17. $0 = x^2 + 4x + 3$

18. $0 = x^2 - 5x + 4$

19. $0 = x^2 - 5x - 6$

20. Suppose the garden in Example 7 above measured 7 yards by 12 yards and the budget lets you cover 66 square yards. How wide should the border be?

10.5 Exercises

Guided Practice

Vocabulary Check

1. What does it mean to factor a trinomial of the form $x^2 + bx + c$?

Skill Check

Match the trinomial with a correct factorization.

- | | |
|--------------------|---------------------|
| 2. $x^2 - x - 20$ | A. $(x + 5)(x - 4)$ |
| 3. $x^2 + x - 20$ | B. $(x + 4)(x + 5)$ |
| 4. $x^2 + 9x + 20$ | C. $(x - 4)(x - 5)$ |
| 5. $x^2 - 9x + 20$ | D. $(x + 4)(x - 5)$ |

Solve the equation by factoring.

6. $0 = x^2 - 4x + 4$ 7. $0 = x^2 - 4x - 5$ 8. $0 = x^2 + x - 6$

LOGICAL REASONING Complete the statement with *always*, *sometimes*, or *never*.

9. Factoring ? reverses the effects of multiplication.
10. In the factoring of a trinomial, if the constant term is positive, then the signs in both binomial factors will ? be the same.
11. In the factoring of a trinomial, if the constant term is negative, then the signs in both binomial factors will ? be negative.

Practice and Applications

FACTORED FORM Choose the correct factorization.

- | | | |
|---------------------|----------------------|----------------------|
| 12. $x^2 + 7x + 12$ | 13. $x^2 - 10x + 16$ | 14. $x^2 + 11x - 26$ |
| A. $(x + 6)(x + 2)$ | A. $(x - 4)(x - 4)$ | A. $(x - 13)(x + 2)$ |
| B. $(x + 4)(x + 3)$ | B. $(x - 8)(x - 2)$ | B. $(x + 13)(x - 2)$ |

FACTORING TRINOMIALS Factor the trinomial.

- | | | |
|---------------------|----------------------|---------------------|
| 15. $z^2 + 6z + 5$ | 16. $x^2 + 8x - 9$ | 17. $b^2 + 5b - 24$ |
| 18. $a^2 - a - 20$ | 19. $r^2 + 8r + 16$ | 20. $y^2 - 3y - 18$ |
| 21. $m^2 - 7m - 30$ | 22. $w^2 + 13w + 36$ | 23. $b^2 + 3b - 40$ |

SOLVING QUADRATIC EQUATIONS Solve the equation by factoring.

- | | | |
|--------------------------|--------------------------|------------------------|
| 24. $x^2 + 7x + 10 = 0$ | 25. $x^2 + 5x - 14 = 0$ | 26. $x^2 + 6x + 9 = 0$ |
| 27. $x^2 + 16x + 15 = 0$ | 28. $x^2 - 9x = -14$ | 29. $x^2 + 3x = 54$ |
| 30. $x^2 + 100 = 20x$ | 31. $x^2 - 15x + 44 = 0$ | 32. $x^2 - 20x = -51$ |
| 33. $x^2 + 8x = 65$ | 34. $x^2 + 42 = 13x$ | 35. $-x + x^2 = 56$ |

Student Help

► HOMEWORK HELP

- Example 1: Exs. 12–23
Example 2: Exs. 12–23
Example 3: Exs. 12–23
Example 4: Exs. 12–23
Example 5: Exs. 39–41
Example 6: Exs. 24–35
Example 7: Exs. 42–45

EXAMPLE

Solve $x^2 - 9x + 18 = 2x$.

Solution

$$x^2 - 9x + 18 = 2x$$

Write original equation.

$$x^2 - 9x + 18 - 2x = 0$$

Add $-2x$ to each side.

$$x^2 - 11x + 18 = 0$$

Combine like terms.

$$(x - 2)(x - 9) = 0$$

Factor.

$$x - 2 = 0 \quad \text{or} \quad x - 9 = 0$$


Use zero-product property.

$$x = 2$$

$$x = 9$$

Solve for x .**ANSWER** ▶ The solutions are 2 and 9. Check your answers.**Solve the equation by factoring.**

36. $x^2 - x - 8 = 82$ **37.** $n^2 + 8n + 32 = -4n$ **38.** $c^2 + 10c - 48 = 12c$

 **CHECKING GRAPHICALLY** Solve the equation by factoring. Then use a graphing calculator to check your answer.

39. $x^2 - 17x + 30 = 0$ **40.** $x^2 - 20x + 19 = 0$ **41.** $x^2 + 3x - 18 = 0$

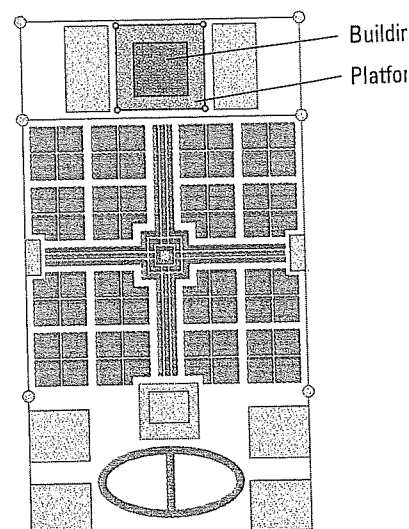
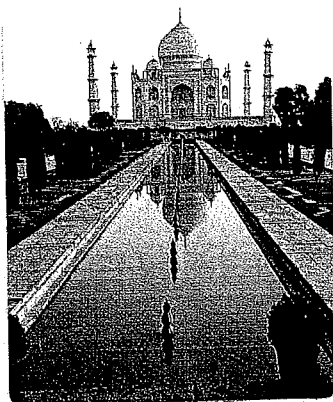
MAKING A SIGN In Exercises 42 and 43, a triangular sign has a base that is 2 feet less than twice its height. A local zoning ordinance restricts the surface area of street signs to be no more than 20 square feet.

- 42.** Write an inequality involving the height that represents the largest triangular sign allowed.
- 43.** Find the base and height of the largest triangular sign that meets the zoning ordinance.

THE TAJ MAHAL In Exercises 44 and 45, refer to the illustration of the Taj Mahal below.

- 44.** The platform is about 38 meters wider than the main building. The total area of the platform is about 9025 square meters. Using the fact that the platform and the base of the building are squares, find their dimensions.

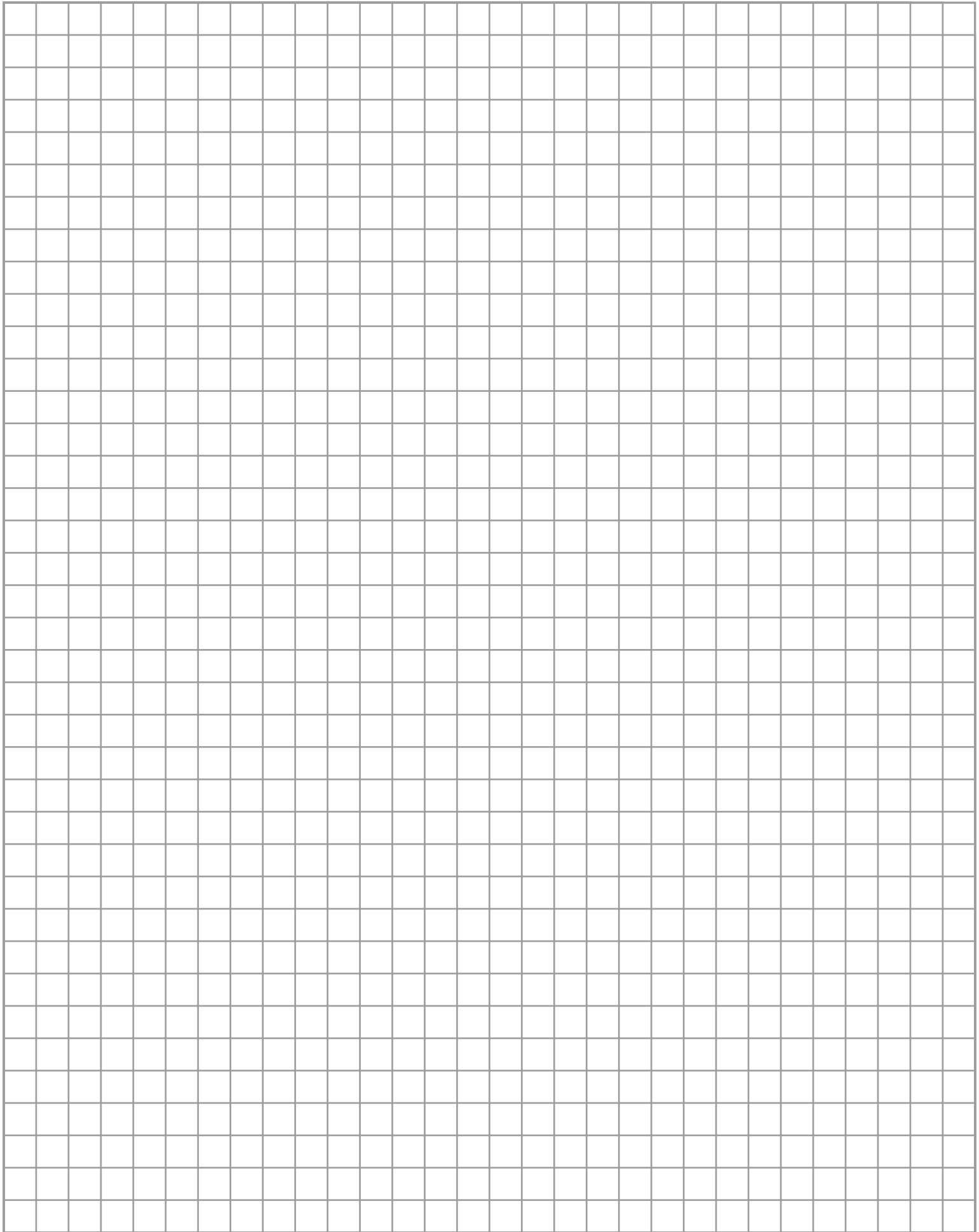
- 45.** The entire complex of the Taj Mahal is about 245 meters longer than it is wide. The area of the entire complex is about 167,750 square meters. What are the dimensions of the entire complex? Explain your steps in finding the solution.

**Link to Architecture****TAJ MAHAL**

It took more than 20,000 daily workers 22 years to complete the Taj Mahal around 1643 in India. Built mainly of white marble and red sandstone, the Taj Mahal is renowned for its beauty.



More about the Taj Mahal is available at www.mcdougallittell.com



1 Block = $\frac{1}{4}$ "



Daily Reflection/Prayer

MONDAY

(10 minutes)

The following prayer is attributed to Fr. Pedro Arrupe. Read it a few times and then see what comes to your attention. What causes you to “fall in love”? Where do you struggle to love? Why do you think that is?

Fall in Love

Nothing is more practical than
finding God, than
falling in Love
in a quite absolute, final way.
What you are in love with,
what seizes your imagination, will affect everything.
It will decide
what will get you out of bed in the morning,
what you do with your evenings,
how you spend your weekends,
what you read, whom you know,
what breaks your heart,
and what amazes you with joy and gratitude.
Fall in Love, stay in love,
and it will decide everything.

TUESDAY

(10 Minutes)

"Today our prime educational objective must be to form men and women for others;
men and women who will live not for themselves but for God and his Christ - **for the God-man who lived and died for all the world**; men and women who cannot even conceive of love of God which does not include love for the least of their neighbors; men and women completely convinced that love of God which does not issue in justice for others is a farce."

Fr. Pedro Arrupe wrote the above words and it is where we get the term “men and women for others” from. Read this statement twice. Then read it a third time slowly in prayer. What words jump out at you? How do you find your prayer drawing you toward being a man or woman for others? What does that look like in your life?

WEDNESDAY

(10 minutes)

As Kingfishers Catch Fire

As kingfishers catch fire, dragonflies draw flame;
As tumbled over rim in roundy wells
Stones ring; like each tucked string tells, each hung bell's
Bow swung finds tongue to fling out broad its name;
Each mortal thing does one thing and the same;
Deals out that being indoors each one dwells;
Selves -- goes itself; myself it speaks and spells,
Crying What I do is me: for that I came.
I say more: the just man justices;
Keeps grace: that keeps all his goings graces;
Acts in God's eye what in God's eye he is -- Christ.

For Christ plays in ten thousand places,
Lovely in limbs, and lovely in eyes not his
To the Father through the features of men's faces.

This is a prayer-poem by the Jesuit Gerard Manly Hopkins. It is meant to help us grow closer to God through imagery and nature. Read it a few times. What about it sparks your imagination? What does it mean that “Christ plays in ten thousand places”? Consider writing your own version of a prayer-poem about this week!

THURSDAY



(10 minutes)

[Image Link \(http://bit.ly/ChurchCeiling\)](http://bit.ly/ChurchCeiling)

The image to the left is the ceiling of the major Jesuit Church in Rome. It has many different aspects and parts. You can read more about it [here \(http://bit.ly/AndreaPozzoSJ\)](http://bit.ly/AndreaPozzoSJ) and the different parts as well as the artist. As you gaze at it (for at least 3 minutes, just let your eye wander over it), what do you see? How does it draw your eye to God? Take a turn. Make your own image or picture that represents your relationship with God.

FRIDAY

(10 minutes)

[Surge Valentia \(http://bit.ly/SurgeValentia\)](http://bit.ly/SurgeValentia) (en español)

OR

[Take, Lord, Receive \(http://bit.ly/TakeLordReceive\)](http://bit.ly/TakeLordReceive) (in English)

Pick one of the above songs. Listen to it at least once in a prayerful, quiet space. What feelings or emotions are you left with after you hear it? What do the words mean to you? Take a moment to thank God for this week.

Movement Practices

Welp, it is just movement. Here are some ideas of what you can do outside.

Choose 1 or more per day:

- Plan a meal for your family using the guidelines at [choosemyplate.gov](https://www.choosemyplate.gov)
- Weather permitting, research a 1-2 mile “easy” hike on [alltrails.com](https://www.alltrails.com)
- Use [traillink.com](https://www.traillink.com) to find a paved bike path. Ride your bike for 2-5 miles.
- 10/20/30 minute walk or run in the fresh air by yourself or with your family
- Pass a soccer ball or shoot a basketball outside at the park for 15 minutes with your family.
- Choose a “Yoga with Adrienne” or “SeanVigueFitness” video and learn a bit of yoga!

Body Weight Workouts:

- Burpees: watch a youtube video on how to do a burpee, and choose from the following:
 - Do as many burpees over the course of the day as your age
 - 25 total over the course of the day
 - 3 sets of 15 burpees
- Body-weight-squats: watch a youtube video on proper bodyweight squat form (feet shoulder-width apart, don’t let your hips go lower than your knees). Choose one:
 - Do as many squats over the course of the day as your age
 - 25 total over the course of the day
 - 3 sets of 15 squats
- Pushups:
 - Challenge yourself to do 1 more pushup than you did yesterday.
 - Start with pushups on your knees if you need to.
- Planks:
 - Challenge yourself to get up to 2:00 minutes of holding a plank (hands on the floor) or 1:00 minute (elbows on the floor).

KEEP BEING GREAT,
GENERALS!

TAKE GOOD CARE OF
YOURSELVES AND
YOUR FAMILIES AS
THE MEN AND
WOMEN FOR OTHERS
WE KNOW YOU ARE!



