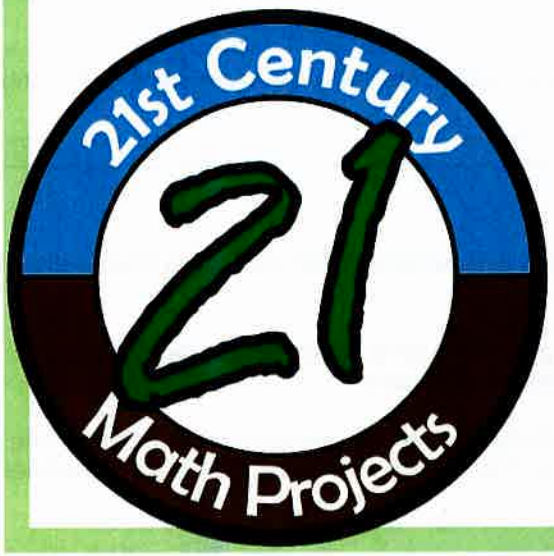
INTERNATIONAL CELL PHONE PLAN



CELL PHONE COMPARISON

Name _____ Date _____

Cell phones have become the most necessary accessories that people carry around. As you enter adulthood, one of the first decisions that you may make is how you will handle your own cell phone plan. Although costs and incentives are always changing, using critical thinking skills to decide what makes the most financial sense is important. In this assignment you will use the costs of fictional cell phone companies to create linear functions and make decisions.

	Voice Unlimited (per month)	Text ($/text)	Data ($/mb)
ET&T	$59.00	$0.10	$0.15
Horizon	$39.00	$0.35	$0.12
Jog	$49.00	$0.21	$0.08
M-Tobile	$44.00	$0.18	$0.05

1.) Nadia the Texter needs to get a plan with Voice Unlimited and Texting, and she is comparing the four companies above. For each plan, write an equation that represents the total monthly cost y for a voice plan and x texts per month.

	Linear Function with Texting
ET&T	
Horizon	
Jog	
M-Tobile	

2.) Nadia is a frequent texter and has sent an average of about 1,000 texts a month. Her personal goal is to cut her texting in half to 500 texts a month. In each of these situations, what would be the total cost of her plan?

	500 texts	1,000 texts
ET&T		
Horizon		
Jog		
M-Tobile		

3.) Which plan would you suggest that Nadia chooses? Explain.

INTERNATIONAL PRE-PAID PLANS

Name _____ Date _____

When traveling internationally it is best to investigate options for your phone before you go. Without research and careful decision-making, you may receive a bill with hundreds of dollars of roaming fees. More and more, travelers are opting to purchase prepaid phones in the country they are traveling. Prepaid cell phone plans allow a buyer to purchase minutes, texts and megabytes upfront. When minutes, texts or megabytes are used up, they will need to buy more.

Use the data from the table below to create linear functions and make decisions around the world.

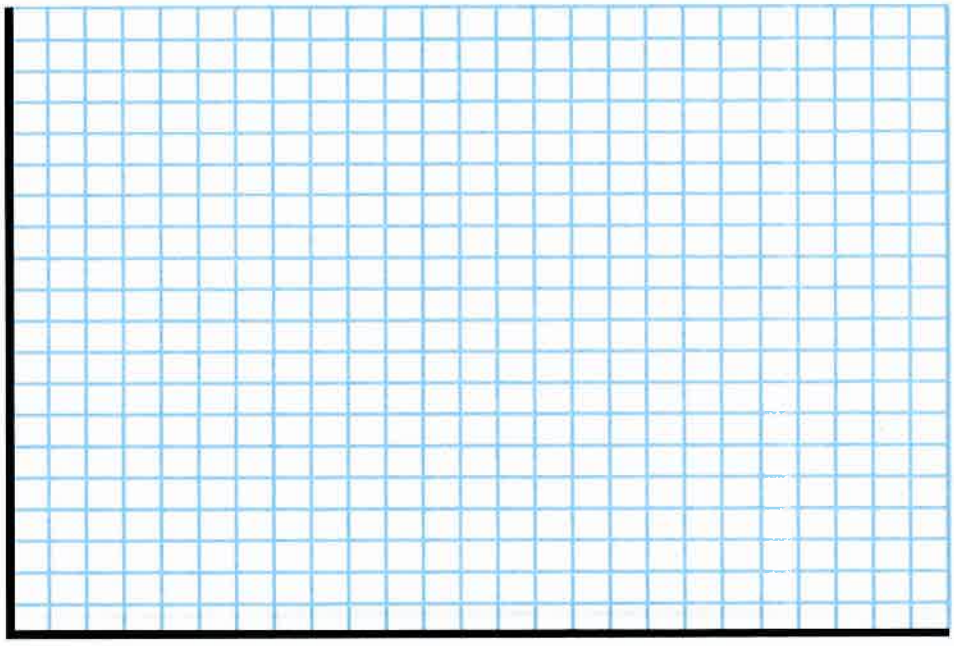
	Prepaid Phone	Voice ($/minute)	Text ($/text)	Data ($/mb)
CANADA	$39.00	$0.38	$0.14	$0.05
DENMARK	$17.00	$0.17	$0.03	$0.03
FINLAND	$25.50	$0.10	$0.10	$0.03
HONG KONG	$8.50	$0.02	$0.06	$0.10
INDIA	$9.00	$0.01	$0.02	$0.01
JAPAN	$0	$1.00	$0.01	$9.40
SOUTH KOREA	$4.50	$0.09	$0.02	$0.02
SWEDEN	$10.00	$0.04	$0.04	$0.01
TAIWAN	$12.00	$0.12	$0.04	$0.02
UNITED STATES	$40.00	$0.25	$0.20	$0.08
UNITED KINGDOM	$32.00	$0.36	$0.15	$0.01

Data from the New American Foundation

TEXTING

A traveler plans to purchase a prepaid phone in each country and wi l purchase texts as necessary. Construct linear functions for each country where x is the number of texts and y is the total cost of the phone. Choose four of the countries to graph on the grid below. Be sure to choose your scale wisely. Label your axes and label your lines.

	Text Function	Total Cost for 200 texts
CANADA		
DENMARK		
FINLAND		
HONG KONG		
INDIA		
JAPAN		
SOUTH KOREA		
SWEDEN		
TAIWAN		
UNITED STATES		
UNITED KINGDOM		



A LITTLE BIT OF EVERYTHING

A traveler plans to purchase a prepaid phone in each country and will purchase minutes, texts and megabytes as necessary. Write a function (they are linear, but would be in four dimensions! Yikes!) for each country where *a* is the number of minutes, *b* is the number of texts, *c* is the number of megabytes and *y* is the total cost of the phone.

YOUR USAGE: Estimate how much you would need for a month-long trip to another country.

Minutes	Texts	Megabytes

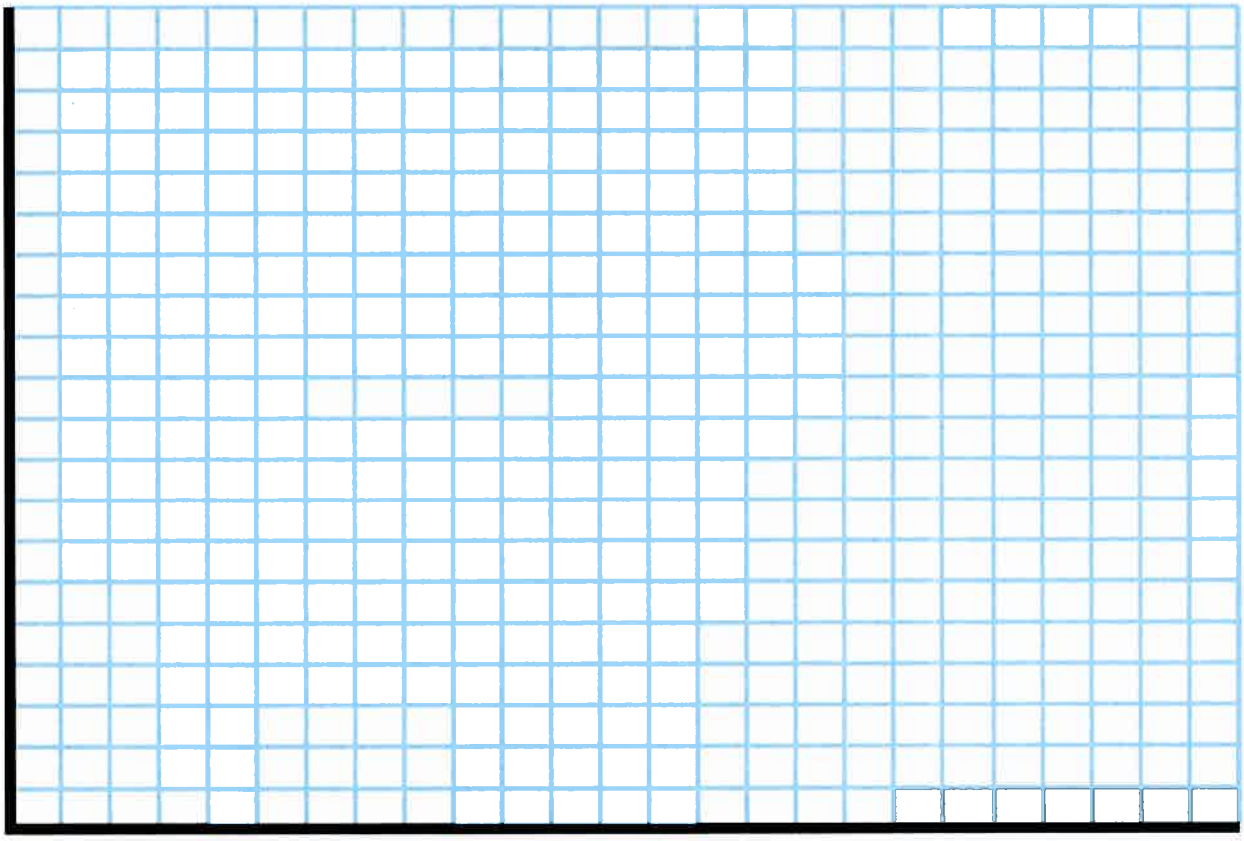
	Function	Total Cost of Your Usage
CANADA		
DENMARK		
FINLAND		
HONG KONG		
INDIA		
JAPAN		
SOUTH KOREA		
SWEDEN		
TAIWAN		
UNITED STATES		
UNITED KINGDOM		

FOLLOW-UP

Which country will cost the most for your usage? Which country would cost the least?

MOBILE TRAVEL

On the coordinate grid, graph the *Voice Roaming Function* of the cel phone provider of your choice and the *Prepaid Voice Function* for the country of your choice. Be sure to choose your scale wisely. Label your axes and label your lines.



FOLLOW-UPS

1. Do the lines intersect? What is this point and what does it mean?

2. If you planned to use 10 minutes of call time, which plan is the better option?

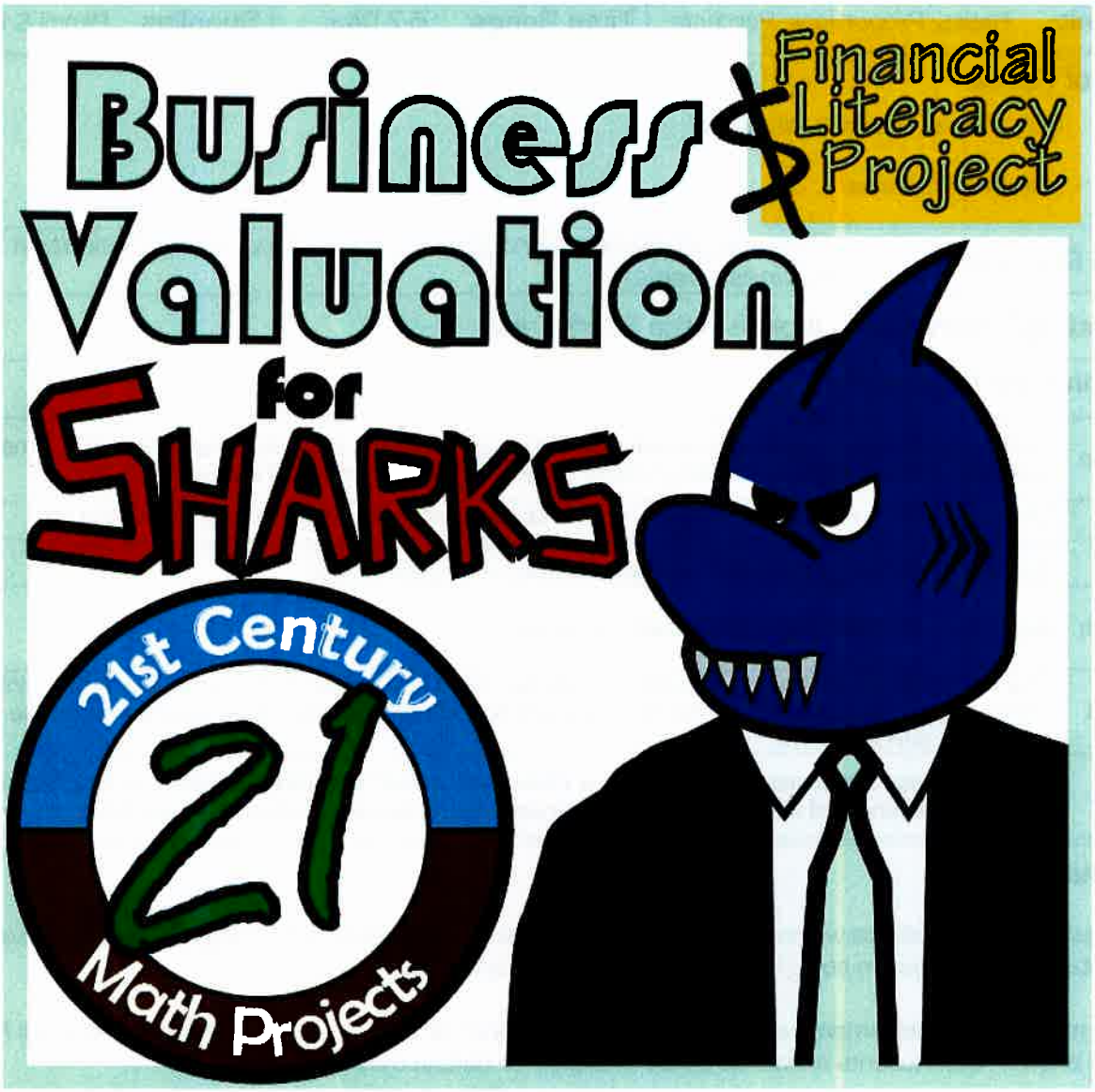
3. If you planned to use 250 minutes of call time, which plan is the better option?

INTERNATIONAL CELL PHONE PLAN

Rubric

Standards		Exemplary	Proficient	Developing
HSS-ID.B.7	interpret the rate of change of a linear association			
HSF-IF.C.7	graph functions expressed symbolically			
Math Processes		**Exemplary**	**Proficient**	**Developing**
Skills & Mechanics	*accurately performs calculations*			
	demonstrates fluency with mathematical skills and processes			
Applications	*accurately interprets word problems and addresses them with appropriate math skills*			
	can articulate the meaning of calculations in the context of the problems.			
Use of Evidence & Analysis	*can determine what evidence is appropriate to answer a question*			
	utilizes mathematical outcomes to support their conclusions			

Comments:



Procedures (cont'd):

D.) In "Into the Tank", students will need to make a revenue projection, calculate their EBIT, determine a multiplier of their business, and calculate their valuation. They will have up to three offers from sharks that they have to consider by calculating the valuations.

To end the unit, students will be required to design a small business or create an invention, analyze the finances of their company and present a pitch in front of Sharks (other students) who can choose to invest (or not) in their product or service.

E) In "Swimming with the Sharks" (pages 15-24), students will create a small business plan or invention that they will pitch to a panel of Sharks in hopes that they get an investment (their grade depends on it!) They will be putting their knowledge of equity, revenue projections and valuation to the test all built around their own creation.

You should approve students's Think Tank worksheet, and then hand them a copy of their *Quarterly Finances* (pages 17-20).

Depending on the quality and creativity of the student's *Think Tank* assignment, they will be given one of these cards. Cards A-G show moderate revenue. H-K show significant, growing revenue. L-O show low, declining revenue. Within these groups they go from low expense to high expense for smaller to larger companies. There are 15 possibilities overall. *Print two or three sets per class.*

Students will use these finances to project for the rest of the calendar year, estimate a multiplier based on the *Multiplier Chart* and determine what they believe is an accurate valuation of their company. Finally, before they are ready to pitch they must complete *My Finances* and determine the equity offering for their business.

Before students enter the tank, they must have a product pitch ready (energy and visuals help!) and they must know their numbers!

In order to get a deal, they must get at least the dollar amount that they are asking for, but they CAN negotiate the percentage of equity. So they need to choose carefully.

F) Students will then pitch their projects in front of a panel of Sharks. You can do this as a whole class, but it would likely work best in small groups of 5 or 6. This is also a unique opportunity to invite outside guests into the class. 1 student will pitch as an Entrepreneur while the others are the Sharks who have $500,000 to invest. Hand out to students "Shark Notes" which the Sharks will use to determine their own valuations of the Entrepreneur's business.

Students will complete the bottom of the *My Financials* page with a reflection as the entrepreneur and will complete a reflection on *Shark Notes* as a Shark. All parts should be collected.

* Aspects of the project can be completed independently. The entire project does not need to be completed to have a great learning experience, though it is suggested because it will best scaffold the skills and context.

 **Trish** **Express Wrap/ Sandwich Shop**	Trish plans to sell off 40% of her fast food restaurant business. If the business has been appraised for $350,000, how much money does she expect to raise?
 **Doyle** **Landscaping Business**	Doyle has been offered $70,000 for 80% of his landscaping business. If he has his business appraised at $105,000, is this a good deal?
 **Tripiti** **Pet Store Owner**	Tripiti is looking for a partial owner to take a 25% stake in her pet store business, which is valued at $90,000. She has an offer of $15,000. Would this be enough or would she need to find another investor?
 **Shabazz** **Surfside Food Cart Business**	Shabazz is looking to move closer to his grandchildren and is looking to sell his successful food cart business. He has two offers from potential partners: A.)$35,000 for 80% of the business -or- B.)$40,000 for 90% of the business Which offer places a higher valuation on his business?

A business's valuation isn't the exact same number as its EBIT. Typically, a *multiplier* is used in a formula to compute a valuation. A multiplier takes into account values of similar companies and the market.

There are positives that increase a multiplier such as: proprietary products (owning the patent or trademark), weak competition, diversified products and customers and opportunities for growth.

Negative effects on a multiplier may be things like: unoriginal products or services, strong competition or a weak market for the product, or needing financial support. Typically small businesses will have a valuation of 2.0 to 6.0x their EBIT value.

Help these 3 individuals determine the valuation of their company.

Aminata

Multinational Shipping & Receiving Company

Aminata's company *Cargo-Pros* prides itself on shipping and receiving hazardous materials for a diverse range of consumers. In her field, she doesn't have much competition, which has led to annual revenues of $4,500,000 and expenses of $1,400,000.

EBIT	
Multiplier **3.5x**	Valuation

Tyrone

Honey Farm

Tyrone runs a family operated honey farm, which provides 70% of the honey for the Midwest. *Sweet Honey Boo Boo* is a recognizable brand, and the bottle is in the shape of a bear (which he has a patent on). Last year's revenue was $1,300,000 and the expenses were $30,000.

EBIT	
Multiplier **4.2x**	Valuation

Jessica

Ink Cartridge Refill Business

Jessica's business Refill-It refurbishes old ink cartridges for a wide variety of printers. Due to the amount of competition, Jessica is considering selling the business, but is unsure what it is worth. Last year's revenue was $75,000 and the expenses were $48,000.

EBIT	
Multiplier **1.8x**	Valuation

Project the revenue for the year to estimate the EBIT of each business, and consider valuations from similar businesses to calculate a valuation. (Remember: EBIT * Multiplier = Valuation)

Charlie

Bathroom Remodeling Company

Charlie is seeking investors so he's trying to estimate the value of his company.

	Annual
Estimated Annual Expenses	$2,250,000

Previous Y1 Revenue: $3,189,000
Previous Y2 Revenue: $3,312,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	650,000	1,280,000	1,080,000		

EBIT (Revenue – Expenses)

Valuation of Similar Companies (use to determine a multiplier)			Multiplier for Valuation
Company A EBIT: $5,800,000 Valuation: $15,000,000 Multiplier: _____	Company B EBIT: $630,000 Valuation: $1,200,000 Multiplier: _____	Company C EBIT: $3,750,000 Valuation: $9,875,000 Multiplier: _____	

Valuation

Safiyo

Authentic West African Restaurant

Safiyo is moving and will need to sell her business, so she needs a valuation.

	Annual
Estimated Annual Expenses	$85,000

Previous Y1 Revenue: $310,000
Previous Y2 Revenue: $290,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	74,000	72,000	78,000		

EBIT (Revenue – Expenses)

Valuation of Similar Companies (use to determine a multiplier)			Multiplier for Valuation
Company A EBIT: $150,000 Valuation: $280,000 Multiplier: _____	Company B EBIT: $520,000 Valuation: $910,000 Multiplier: _____	Company C EBIT: $850,000 Valuation: $1,750,000 Multiplier: _____	

Valuation

Into the TANK...

Name _____ Date _____

For some small business owners and inventors, one investment can be the difference between making it and breaking it. On the show *Shark Tank,* entrepreneurs go before a panel of wealthy investors (the Sharks) to pitch their product or idea. The entrepreneurs must enter the tank with an investment amount and a percentage of equity that they are offering. Some are able to pitch their way toward getting a life-changing investment and others are... well, eaten alive.

The investors are not there to give handouts and are interested in ideas or products that they believe they can make money off of. Their successful careers in business have laid a foundation of shrewd negotiation, a mastery of valuation and equity and a lack of patience for people who go in unprepared with their financial numbers! They haven't gotten to their success by being nice to everyone they cross paths with, and if they feel the entrepreneur is wasting their time or that their idea is weak, they will tell them – right to their face – sometimes brutally. Oh, the life of a shark.

Consider the offers from the Sharks and decide whether to take the investment.

Aicha

Hiker Biker

a bike that folds into a backpack

Seeking $100,000 for a 10% equity stake in the business

Aicha is seeking $100,000 for a 10% equity stake in the business to manufacture at a higher volume and reduce her costs. She does own a patent for the design.

	Annual
Estimated Annual Expenses	$45,000

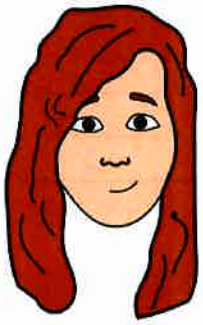
Previous Y1 Revenue: $21,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	19,000	31,000			

EBIT (Revenue – Expenses)	
Multiplier for Valuation	Valuation

Ms. Leopard 	Mr. Blue 	Mr. Hammer 
Your valuation is way off. There's no way your business today is worth $1,000,000. Maybe in the future, but not today. I'm out.	Ms. Leopard is right, your value is off, but your product is interesting and you have a patent. I'll give you the $100,000 but for 30% of your company because that is what you're worth.	This is an innovative product with a niche market. I have connections in the outdoor sporting goods retailers, and I can sell this. I'll give you $450,000 for your entire business and the patent.

Which offer gives her the best valuation? Should Aicha accept any of the offers or are the valuations too different from hers? Should she counter?



Kaitlin

Jamster Jeans

a pair of jeans with stylish embroidery and tears

Seeking $20,000 for a 25% equity stake in the business

Kaitlin is seeking $20,000 for a 25% equity stake in the business to get into more distributors and reduce her costs. She does not own any patents.

	Annual
Estimated Annual Expenses	$28,000

Previous Y1 Revenue: $63,000
Previous Y2 Revenue: $62,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	21,000	14,000	19,000		

EBIT (Revenue – Expenses)

Valuation of Similar Companies (use to determine a multiplier)

Company A	Company B	Company C	Multiplier for Valuation
EBIT: $56,000	EBIT: $120,000	EBIT: $850,000	
Valuation: $75,000	Valuation: $195,000	Valuation: $1,319,000	
Multiplier: _____	Multiplier: _____	Multiplier: _____	

Valuation

Ms. Leopard

There's no market more difficult than the blue jean market. Three companies control the entire thing. I have connections with one of them and could potentially bring your product to them. This would take a great time investment from me. I will offer you the $20,000, but for 60% of the company.

Ms. Leopard's valuation is:

Mr. Blue

The design is neat, but I think your valuation is high. The jean market is ultra-competitive and virtually impossible to break into. That said, I know my daughters would like those jeans. I will offer you $25,000, but for 50% of the company.

Mr. Blue's valuation is:

Mr. Hammer

There is nothing proprietary about this product. Someone could come along and rip off your design and there's nothing you can do about it. I'm out.

Which offer gives Kaitlin the best valuation? Should she accept any of the offers or are the valuations too different from hers? Should she counter?

Swimming with THE SHARKS

Name _____ Date _____

Many educational experts agree that modern education is not allowing students enough opportunities for creativity. Thus they end up either bored out of their minds OR completely dependent on someone telling them what to do every minute of their ife OR somewhere in between. Employers are concerned that this is a missing ingredient in the new generations of workers. Now is our chance to fix that (at least a little bit).

You must create a small business plan or invention that you will pitch to a panel of Sharks in hopes that you get an investment (your grade depends on it!). You will be putting your knowledge of equity, revenue projections and valuation to the test all built around your own creation.

Once you have an approved idea on the *Think Tank* worksheet, your teacher will hand you a copy of your *Quarterly Finances*. The better your idea, the more likely your teacher will be to give you stronger finances. You will use these finances to project for the rest of the calendar year, estimate a multiplier based on the *Multiplier Chart* and determine what you believe is an accurate valuation of your company. Finally, before you are ready to pitch, complete *My Finances* and determine the equity offering for your business.

Before you enter the tank, you must have a product pitch ready (energy and visuals help!) and you must know your numbers! If you're caught reading everything from a paper, you will prove to be an unreliable business partner.

In order to get a deal, you must get at least the dollar amount that you are asking for, but you CAN negotiate the percentage of equity. So choose carefully.

Quarterly Finances

Depending on the quality and creativity of the student's Think Tank Assignment, they will be given one of these cards. Cards A-G show moderate revenue. H-K show significant, growing revenue. L-O show low, declining revenue. Within these groups they go from low expense to high expense for smaller to larger companies. There are 15 possibilities overall. *Print two or three sets per class.*

A

	Annual
Estimated Annual Expenses	$25,000

Previous Y1 Revenue: $44,000
Previous Y2 Revenue: $52,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	12,000	13,500	15,000		

B

	Annual
Estimated Annual Expenses	$60,000

Previous Y1 Revenue: $95,000
Previous Y2 Revenue: $118,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	28,000	31,000	29,500		

C

	Annual
Estimated Annual Expenses	$75,000

Previous Y1 Revenue: $74,000
Previous Y2 Revenue: $95,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	26,500	28,200	28,800		

H

	Annual
Estimated Annual Expenses	$24,000

Previous Y1 Revenue: $84,500
Previous Y2 Revenue: $108,800

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	29,500	34,750	41,400		

I

	Annual
Estimated Annual Expenses	$48,000

Previous Y1 Revenue: $51,230
Previous Y2 Revenue: $95,350

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	41,750	45,250	52,500		

J

	Annual
Estimated Annual Expenses	$106,000

Previous Y1 Revenue: $120,500
Previous Y2 Revenue: $185,900

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	67,430	75,425	86,800		

K

	Annual
Estimated Annual Expenses	$235,000

Previous Y1 Revenue: $450,000
Previous Y2 Revenue: $675,000

	Q1	Q2	Q3	Q4	Annual
Revenue ($)	235,700	254,500	271,800		

Multipliers

A *multiplier* takes into account values of similar companies and the market.

Estimate Your Multiplier

(Start Here & Add)

How Unique is Your Product or Business?

It has been around forever	It's an improvement of a product or business (no patent)	I would have a patent and a small market	I would have a patent and a large market	It will change the world
0	1.0	2.0	3.0	4.0

How Much Competition Do You Have?

Heavy competition	Moderate competition, but I have a unique spin on it.	Virtually no competition. Completely innovative
0	+0.25	+0.5

Will You Have a Wide Range of Products or Services?

A single product or service	A couple products of services are offered.	A wide range of products or services
0	+0.1	+0.25

Are there opportunities to grow the product or business?

It is pretty much a standalone idea.	There are a couple other ideas that are connected	There is a wide range of products or services that make sense with the business.
0	+0.1	+0.25

My estimated multiplier for my business is: _____

Shark Notes

You will be on a panel for a set of pitch presentations, and you will have $500,000 to invest. Use the space below to take notes and estimate your own valuations of the business that you see.

Name of Business:______________________________

Revenue / Expense Notes:
EBIT (Revenue – Expenses)

Multiplier for Valuation

Valuation

Equity Offering (How much equity would you offer? How different is it than what is being asked?)

$$\frac{\boldsymbol{investment}}{\boldsymbol{value}} = \frac{\boldsymbol{\%\ equity}}{\mathbf{100\%}}$$

Name of Business:______________________________

Revenue / Expense Notes:
EBIT (Revenue – Expenses)

Multiplier for Valuation

Valuation

Equity Offering (How much equity would you offer? How different is it than what is being asked?)

$$\frac{\boldsymbol{investment}}{\boldsymbol{value}} = \frac{\boldsymbol{\%\ equity}}{\mathbf{100\%}}$$

Name of Business:______________________________

Revenue / Expense Notes:
EBIT (Revenue – Expenses)

Multiplier for Valuation

Valuation

Equity Offering (How much equity would you offer? How different is it than what is being asked?)

$$\frac{\boldsymbol{investment}}{\boldsymbol{value}} = \frac{\boldsymbol{\%\ equity}}{\mathbf{100\%}}$$

Business Valuation for Sharks

Rubric

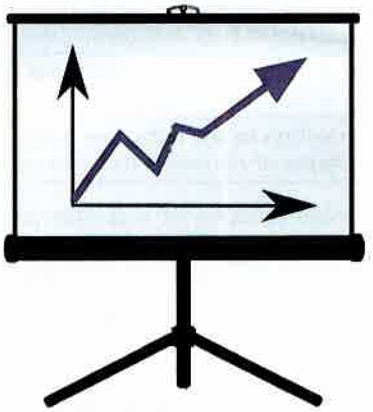
Standards		Exemplary	Proficient	Developing
7.RP.A.3	use proportional relationships to solve multistep ratio and percent problem			
7.EE.B.4	use variables to represent quantities in a real-world or mathematical problem			
Math Processes		**Exemplary**	**Proficient**	**Developing**
Skills & Mechanics	*accurately performs calculations*			
	demonstrates fluency with mathematical skills and processes			
Applications	*accurately interprets word problems and addresses them with appropriate math skills*			
	can articulate the meaning of calculations in the context of the problems.			
Use of Evidence & Analysis	*can determine what evidence is appropriate to answer a question*			
	utilizes mathematical outcomes to support their conclusions			

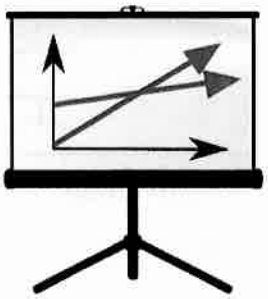
Comments:

Financial Literacy Project

Entrepreneur Projections

21st Century 21 Math Projects





The Break-Even Point

Name _____ Date _____

When taking on a new business, it's extremely important to be profitable. All new businesses begin in debt and after months or years of work they may finally break-even. This is the day that a business owner is finally out of debt and is a call for a celebration! However, many businesses never reach this point and close. According to research from the University of Tennessee, 50% of all small businesses fail within the first four years. The most common reason for failure? Poor financial planning and incompetence.

Below are small businesses that are opening soon. They have planned for the necessary startup costs, budgeted for monthly expenditures and have projected monthly revenue. You are an accountant and have created linear models to project the *revenue* and *expenses* of each business. In each model, x represents months. When will the business below finally get out of debt? Would you suggest starting the business given your calculations? Why or why not?

	All-Star Daycare	Burrito Barn	Cell Resell	Dinner Food Spot
Start-Up Cost	$125,000	$45,000	$16,000	$55,000
Projected Monthly Expenses	$52,000	$25,000	$6,500	$32,000
Projected Monthly Revenue	$58,500	$26,500	$6,250	$36,000
Expense Model				
Revenue Model				
Break-Even Point				

Revenue & Expenses

Name _____ Date _____

Entrepreneurs come from all walks of life and create businesses in all corners of the world. These new businesses may be stores, services, restaurants or online boutiques. When starting a business, it is extremely important to pay careful attention to the financial matters. The two simplest figures that businesses use are *revenue* and *expenses*. Revenue is all of the money a business makes and expenses are all of the money a business spends. The difference between the revenue and expenses is either *profit* or *debt*.

After meeting a few entrepreneurs, they each made claims and predictions about their businesses after the first six months of the year. Do these statements make any sense when you look at their actual finances? Use their financial data and linear regression to determine a linear model for the data. Use the linear models to evaluate the claim made by the entrepreneur.

Swaggtronics

(customized headphones)

Claim: Swaggtronics believe that by month 12 they will have a year-to-date revenue of $78,000.

Year-to-Date Revenue

Month	Jan (x=1)	Feb	Mar	Apr	May	Jun	Linear Model
YTD revenue ($)	1,673	3,975	5,038	7,840	10,030	15,230	

Follow-Ups

1. Based on the linear model, will Swaggtronics earn $78,000 in revenue by the end of the year?

2. A linear model for the expenses for Swaggtronics is $y = 2{,}419x + 34{,}649$. When would they break-even with their business?

Ninja Gear

(ninja style apparel)

Claim: Ninja Gear believes by month 9 they'll have more revenue than all prior years combined ($21,500).

Year-to-Date Revenue

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD revenue ($)	1,184	2,580	3,213	5,518	7,831	9,921	

Follow-Ups

1. Based on the linear model, will Ninja Gear earn $21,500 in revenue by the end of the 9th month?

2. A linear model for the expenses for Ninja Gear is $y = 451x + 14{,}410$. When would they break-even with their business?

Bamboozlers

(sunglasses with frames made of bamboo)

Claim: Bamboozlers believe that by the 12th month they will break-even.

Year-to-Date Expenses

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD expenses ($)	113,419	132,319	175,271	209,310	238,109	273,197	

Year-to-Date Revenue

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD revenue ($)	4,892	8,910	35,190	79,219	113,920	176,208	

Follow-Ups

1. Based on the linear models, will Bamboozlers break-even by the enc of the year?

2. Describe the meanings of the slopes of the linear models in the context of this problem.

Expenses	Revenue

Enrich

(educational afterschool program)

Expenses ($)

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD expenses ($)	84,760	100,890	113,820	131,491	145,629	161,029	

Revenue ($)

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD revenue ($)	17,290	35,190	62,419	91,818	107,301	126,390	

Calculations

1. Based on the current projections, when will the business break-even?

2. What is the current projected profit (revenue – expenses) in...

18 months	
36 months	
60 months	

Recommendation (provide evidence)

International Fusion

(themed family restaurant)

Expenses ($)

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD expenses ($)	58,455	74,188	91,412	107,428	122,976	138,299	

Revenue ($)

Month	Jan	Feb	Mar	Apr	May	Jun	Linear Model
YTD revenue ($)	16,491	33,518	50,210	72,519	97,549	105,210	

Calculations

1. Based on the current projections, when will the business break-even?

2. What is the current projected profit (revenue – expenses) in...

18 months	
36 months	
60 months	

Recommendation (provide evidence)

Entrepreneur Projections

Rubric

Standards		Exemplary	Proficient	Develop ng
HSA-REI.C.6	solve systems of linear equations exactly and approximately			
HSS-ID.B.6a	fit a function to data			
	use functions fitted to data to solve problems in the context of the data			
Math Processes		**Exemplary**	**Proficient**	**Developing**
Skills & Mechanics	*accurately performs calculations*			
	demonstrates fluency with mathematical skills and processes			
Applications	*accurately interprets word problems and addresses them with appropriate math skills*			
	can articulate the meaning of calculations in the context of the problems.			
Use of Evidence & Analysis	*can determine what evidence is appropriate to answer a question*			
	utilizes mathematical outcomes to support their conclusions			

Comments: