Apprenticeship Math 12

ASSIGNMENT: Owning a Small Business

Name:	
Date:	

1. Based on demographics, which city do you think would be a better location to start a Canadian Ninja Warrior gym for adults between the ages of 18 and 64? Why?

POPULATION BY AGE		
Age	Prince George, BC	Kamloops, BC
0-17	15%	16%
18-64	67%	66%
65-79	14%	13%
80+	4%	5%
Total Population	74 800	81 300

- 2. Yannic is planning to run mobile phone app classes for seniors at the local seniors center. The population of the town is 74 800, and approximately 18% of the town is over the age of 65.
 - a) How many potential students are there for Yannic's class?
 - b) If only 2.5% of the seniors are interested in mobile phone app classes, how many students can Yannic expect?
 - c) What are some factors that could affect Yannic's business success?
 - d) What are some ways Yannic could appeal to more people for his classes?

3. Rachel is starting a small business making jams and jellies, which she will sell at local markets. Categorize the follow expenses as start-up (S) or operating (O) costs.

Expense	Start-up or Operating?
Business licence	
Cash box & card reader	
Website/software monthly fees	
Signs for booth	
Jars	
Fruit and other ingredients	
Booth cost (per market date)	

4. Jeanie wants to open a dog daycare in Prince George. She has researched the market and decided that the business is feasible. List at least 5 items that Jeanie needs to consider as start-up costs.

5. Mark is starting a home-based housecleaning business. He has \$2000 saved up, and estimates his start-up costs as follows.

Item	Cost
Vacuum	\$850.00
Brooms and mops	\$175.00
Cleaning solution	\$100.00
Buckets and other supplies	\$75.00
Business licence	\$125.00
Printing signs for his business	\$50.00

a) Does Mark have enough money saved to start his business? What is the difference between his cash on hand and his start-up costs?

b) Suggest two additional items that Mark should consider as start-up expenses for his business.

6. Alex plans on starting a trash removal business. She has a three-quarter ton truck that she plans to use, but estimates that she will have the following start-up costs.

Item	Cost
Tools	\$300.00
Business licence	\$175.00
Website development cost	\$150.00

a) Alex does not have any money saved up, so she needs to take out a loan from the bank. How much money will she have to borrow?

b) The loan has an interest rate of 5.05% per annum, compounded monthly, for a 1-year term. How much will Alex have to repay?

- 7. Edwin runs a hot dog stand at the beach during the summer. In one month he had the following revenue and expenses.
 - a) Identify each item as either and expense or revenue, and fixed or variable.

Item	Cost	Expense or Revenue?	Fixed or Variable?
Loan payment for purchase of stand	\$175.00		
Monthly business licence	\$45.00		
Food supplies	\$1700.00		
Wages for employee	\$525.00		
Insurance	\$175.00		
Hot dog sales	\$3500.00		
Tips	\$92.00		

b)	Calculate his	total	expenses	and	revenue
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total expenses = _	
total revenue =	

- 8. Serge runs a delivery service. He has three trucks and drivers working for him. He charges a flat rate of \$75.00 per delivery. His expenses for one month are shown.
 - a) During the month, one truck made 75 deliveries, the second made 45 deliveries, and the third made 92 deliveries. Did the company have a profit or a loss?

Expenses	
Office supplies	\$75.00
Fuel costs	\$965.00
Cell phones	\$225.00
Insurance on trucks	\$685.00
Salaries for drivers	\$8225.00
Advertising	\$50.00
Truck maintenance	\$600.00
Salary for Serge	\$5000.00

b)	How many	deliveries	does the	company	have to	make to	break even?
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9.	hav ma If th givi	any and his friends have a band. They have created a logo for their band and we had it printed on T-shirts to sell at their gigs. Each T-shirt cost them \$12.49 to ke, and each of the 5 members of the band and 6 crew got a free T-shirt. New had 500 shirts printed, how much would they have to sell each shirt for, after ng away the free shirts, if they wanted to earn a profit of \$2000.00 on the sale of shirts.
10.	has fee	rcel is an electrician. He charges \$45.00 per house call, plus \$26.50/hour. He found that clients do not like the \$45.00 flat fee, so he wants to incorporate the into his hourly rate. He knows that house calls take an average of 3 hours. Using his current fee, how much does Marcel charge for the average 3-hour house call?
	b)	How much would he have to charge per hour if he wanted to eliminate the \$45.00 flat fee but still earn the same amount per 3-hour house call?
	c)	After changing his rate, Marcel found he was not making as much of a profit as with his previous fee. Suggest one possible reason for his lower profit.

1. Kamloops has more potential clients. 2. a) 13 464 b) ≈ 337

c) answers will vary d) answers will vary

Booth cost (per market date) 0 Fruit and other ingredients 0 0 S Signs for booth Website/software monthly fees 0 S Cash box & card reader Business licence 0

4. answers will vary 5. a) Yes, \$625

b) answers will vary

05.730\$ (d 6. a) \$625

7. a) total expenses = \$2620, total revenue = \$3592

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9. \$16.86 per shirt 112 (d

03.14\$ (d 10. a) \$124.50

c) answers will vary