**Chapter 7 problems = Unless indicated round to the nearest hundredth**

**Solving break-even using Revenue – Expenses = Profit**

1. You wish to open up a CAM (complementary alternative medicine) store and want to know how many herbal remedies you need to sell to break even. For the month of June, your fixed cost to operate the store is $962 and your variable cost of goods sold is $3,680. You would like to earn a profit of $1,000 a month.
	1. How much revenue do you need to earn for the month of June for accounting BEA? \_\_\_
		1. How much revenue do you need to earn for an entire year? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. How much revenue do you need to earn for the month of June for economic BEA?
		1. How much revenue do you need to earn for an entire year? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Best way to study is to take the problems and delete parts of the problems and resolve.**

1. You sell watches at $25/each. It cost you $3 in variable cost to make each watch. Your fixed costs is $100 a month. You sell 12 watches. You earn $164 in profit.
	1. You sell watches at $25/each. It cost you $3 in variable cost to make each watch. Your fixed costs is $100 a month. You sell 12 watches. How much profit do you earn?
	2. It cost you $3 in variable cost to make each watch. Your fixed costs is $100 a month. You sell 12 watches. You earn $164 in profit. How much do you charge for each watch?
	3. You sell watches at $25/each. Your fixed costs is $100 a month. You sell 12 watches. You earn $164 in profit. How much is your variable costs to make each watch?
	4. You sell watches at $25/each. It cost you $3 in variable cost to make each watch. You sell 12 watches. You earn $164 in profit. What is the fixed costs for your business?
2. Seeing a need for childcare in her community, Sue decided to launch her own daycare service. Her service needed to be affordable, so she decided to watch each child for $12 a day. Her rent and other fixed expenses will be $600 a month. Each child will need to have 2 meals (@$1.50/each) and 2 snacks ($0.50/each) each day.
	1. How many children will Sue need to take care of (in June) just to break-even in her new business (accounting BEA)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. How many children will Sue need to take care (in June) to earn a profit of $1,000 (economic BEA)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Joe wants to open a store in which he sells T-shirts. For the month of June, he sold 30 t-shirts at $10 each. He paid $5 for each t-shirt and $0.80 per shirt for personalizing art materials. He pays $25 a month of his loan for a t-shirt printing machine. His monthly phone bill is $35.
	1. How much profit will he earn for the quarter? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. EducateComp makes textbooks. It knows its fixed costs are $10,000 and its variable costs are $50 per copy and they must sell 1500 copies of BOOK A to breakeven (accounting). What is the price they should charge for each copy?
5. The Lade & Bach company produces office chairs. The price of the chair is $99.75 and the variable cost per chair is $49.75. The have a total fixed costs of $37,200. How many chairs do they need to sell to breakeven (accounting)? How many chairs do they need to sell to make $50,000 in profit (economic)?
6. PC Fun & games produces games and sells each game for $40.00. They have fixed costs of $800. What is the maximum variable cost per game they can have if they estimate selling 2000 games to breakeven (accounting)?
7. You have the following information regarding XYZ Restaurant and the pizza they sell

|  |  |
| --- | --- |
| **Fixed Costs** | **Variable Costs** |
|  General Labor | $1,500 |  Flour | $0.50 |
|  Rent | $3,000 |  Yeast | $0.05 |
|  Insurance | $200 |  Water | $0.01 |
|  Advertising | $500 |  Cheese | $3.00 |
|  Utitilies | $450 |  Pepperoni | $2.00 |
| **Total** | **$5,650** | **Total** | **$5.56** |

1. How many pizzas does XYZ Restaurant need to sell at $10 each to cover to break even (accounting)? \_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many pizzas does XYZ Restaurant need to sell to earn a profit of $7,500 (economic)? \_\_\_\_\_\_\_\_\_\_\_
3. It costs a publishing company 50,000 dollars to make books. The 50,000 is a fixed cost or a cost that cannot change. To help the publishing company sell the books, a marketing company charges 4 dollars for each book sold. If the company charges 9 dollars per book, how many books should they sell to break even (round to nearest whole number)

Dr. Moran is interested in branching out on his own and opening up a concierge primary care clinic. The clinic will provide specialized health care for clients that want more individualized care and are willing to pay for it. He isn’t interested in accepting insurance and is trying to determine the best approach to running the business. Doing research, Dr. Moran has found that start-up organizations will need to have enough money to sustain their business for 3 years before it begins to make a profit, beyond accounting BEA. He doesn’t have the money to sustain a business for 3 years and needs to borrow money from the bank. He has estimated that he will have $125,000 a month in total expenses. His research has found that there are 100 individuals willing to become his concierge patients. He’s worried about sustaining his business and is offering the following plans (a) monthly (b) six months (c) yearly plans. He will charge his monthly patients $2,000; offer a 10% discount (off the monthly plan price) to those willing to pay for a six month plan; and 20% discount (off the monthly plan price) for the yearly plan. He expects to have 60 monthly patients; 30 that will pay six months; and 10 that will pay for a yearly plan.

1. How much money should he take out for the loan?
2. What is his expected annual revenue from these 100 patients?
3. Based on this number, how much over or short is he to cover his monthly expenses?

**COST POOLING AND COST DRIVERS**

You are in charge of deciding how much each department will need to pay in the ‘cost pool’ to take care of the ‘cost drivers’ that all departments use in the operation of a clinic. You have the following information.

|  |  |  |  |
| --- | --- | --- | --- |
| **COST DRIVERS** | **COST/HOUR** | **HOURS/WEEK USED** | **Total cost** |
| CENTRAL ADMINISTRATION | 5900 | 40 |  |
| IT | 3400 | 40 |  |
| MAINTENANCE | 400 | 30 |  |
| ENVIRONMENTAL SERVICES | 500 | 15 |  |
| ADDITIONAL MINOR SERVICES | 800 | 10 |  |
| Total  | -- |  |  |

CHART THE ABOVE INFORMATION AND DETERMINE THE TOTAL COST/WEEK & HOURS/WEEK THAT SUM UP THE COST DRIVERS.

DETERMINE THE HOURLY RATE OF COST DRIVERS (AS A TOTAL) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You now need to determine how much money you will receive from each department with the following information

|  |  |  |
| --- | --- | --- |
| Department | HOURS OF SERVICES NEEDED | HOW MUCH DO YOU NEED TO GET FROM EACH DEPARTMENT  |
| CLINIC A | 25 |  |
| CLINIC B | 10 |  |
| CLINIC C | 25 |  |
| CLINIC D | 45 |  |
| CLINIC E | 30 |  |
| Total |  |  |

Questions

1. Assume that the new CFO decides to not to cost-pool/cost-driver and decides to split the cost drivers evenly among all the clinics.
	1. Which clinics are paying more than their fair share? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Which clinics are paying less than their fair share? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. Which clinics are paying exactly their fair share? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_