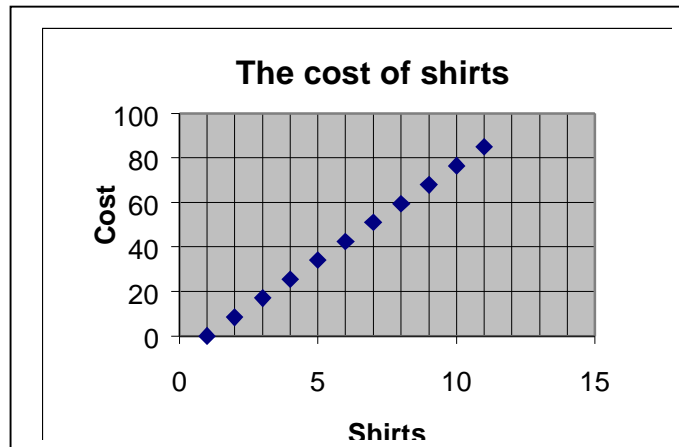


Test review on Variables and Patterns

1. Sidney, Liz, and Malcolm thought it would be a good idea to get a souvenir T-shirt for each customer who went on the Ocean and History Bike Tour. Latisha found a company who would sell them shirts with their logo for \$8.50.

- a. Make a table and a graph that show number of shirts and cost for up to 10 shirts.

Shirts	Cost
0	0
1	8.50
2	17
3	25.50
4	34
5	42.5
6	51
7	59.50
8	68
9	76.50
10	85



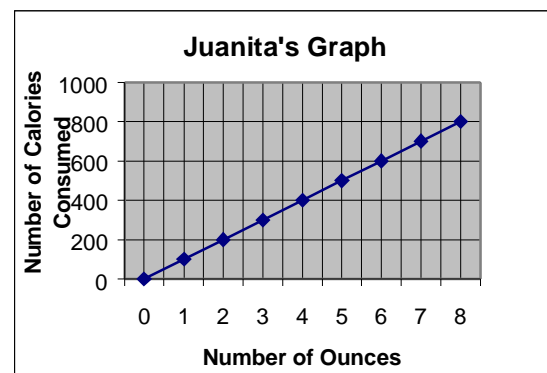
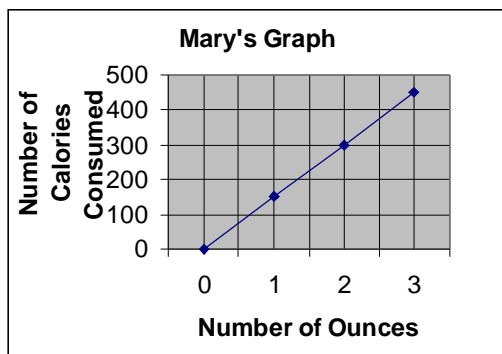
- b. Would it make sense to connect the points on your graph with a line? Explain.

No because you can not buy half a shirt

- c. Write a rule using symbols and numbers to determine the T-shirt cost for any number of customers using C for cost and n for number of customers.

$$C = 8.5n$$

2. Mary and Juanita made the following graphs.



- a. Did Mary and Juanita graph the same data set? Explain your reasoning.

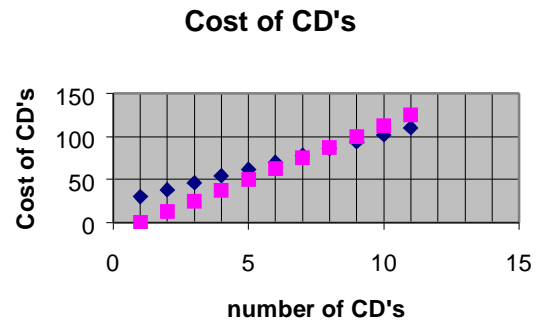
No, Mary's is going up by 150 calories every ounce, while Juanita's is going up 100 calories every ounce.

- b. Write a rule relating the number of ounces to the calories consumed from Mary's graph

$$C = 150z \text{ where } C = \text{calories and } z = \text{ounces}$$

3. Dee bought a CD player with the money he earned working during his vacation. He checked CD costs at 2 stores.
- Bob's Department Store has a \$30 membership fee, then each CD costs \$8
 - Bill's Warehouse sells CD's for \$12.50 each.
- a. Make a table and a graph that shows the cost of purchasing 0-10 CDs at each store.

CDs	Bob's	Bill's
0	30	0
1	38	12.50
2	46	25
3	54	37.50
4	62	50
5	70	62.50
6	78	75
7	86	87.50
8	94	100
9	102	112.50
10	110	125



Give answers to b and c as a range (ex. 5 CD's or less).

- b. How many CDs would Dee have to purchase to have Bill's Warehouse be the best place to buy CDs?

6 or less

- c. How many CDs would Dee have to purchase to have Bob's Department Store be the best place to buy CDs?

7 or more

- d. Explain what representation—the *narrative description*, the *table*, of the *graph*—helps you the most in making the decision of where to buy CDs.

4. Hiroshi gave $y=12x+10$ as the answer to a question on his test paper. Make up a situation that his rule could represent.

One possible answer: Hiroshi put 10 dollars from his birthday into savings and continued to save \$12 per month after that.