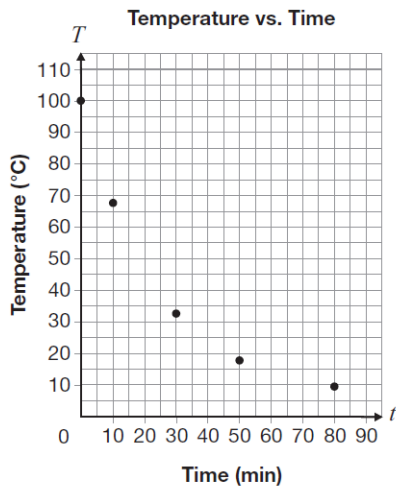


Review and EQAO Practice for Chapter 5 Part 2 - Applications

- 5** A pot of hot soup is placed in a refrigerator to cool. Information about the temperature of the soup at five different times is shown.



Which statement below is true based on the overall trend in the data?

- a At 90 minutes, the temperature of the soup will be 0 °C.
- b The temperature of the soup decreases at a constant rate.
- c It takes approximately 18 minutes for the soup to cool to half its original temperature.
- d There is a greater decrease in temperature between 50 and 80 minutes than between 10 and 30 minutes.

- 7** One of the following tables shows information about a linear relationship.

Using first differences, select this table.

a

x	y
-3	9
-2	6
-1	4
0	3

c

x	y
2	0
3	-2
4	-4
5	-6

b

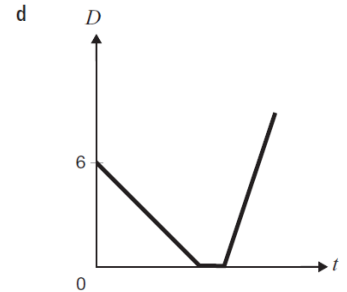
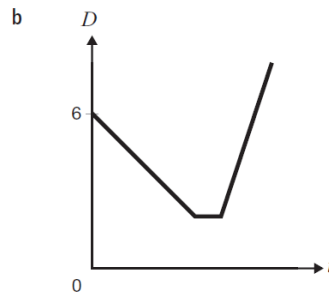
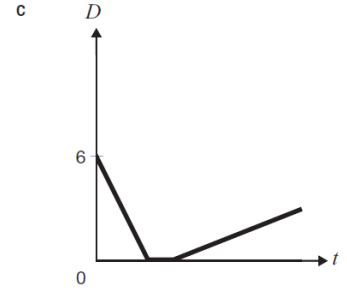
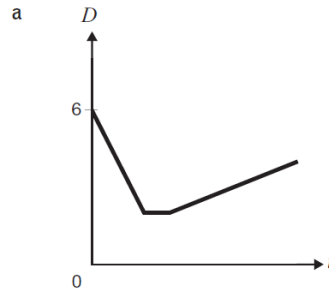
x	y
0	-5
1	-3
2	0
3	3

d

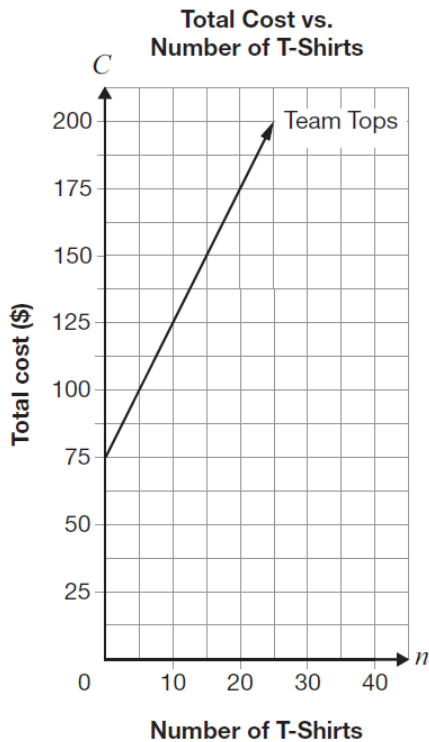
x	y
-1	10
0	15
1	25
2	40

- 8** Raven starts 6 m away from a motion detector. She walks quickly toward it, stops 2 m from the detector for a moment and then backs away from it slowly.

Which of the following graphs could represent the relationship between her distance from the detector, D , and time t , in seconds?



- 18 The total cost for T-shirts at Team Tops is made up of a set-up fee and a charge for each T-shirt as represented by the graph.

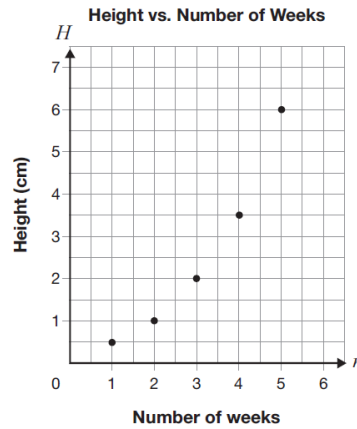


Super Shirts has no set-up fee but charges twice as much for each T-shirt as Team Tops.

Which of the following statements is true?

- a It is always cheaper to order from Super Shirts.
- b It is the same price to order 150 T-shirts from either company.
- c It is cheaper to order 10 T-shirts from Team Tops than from Super Shirts.
- d It is more expensive to order 20 T-shirts from Super Shirts than from Team Tops.

- 5 Information about the relationship between the height of a plant and time is shown on the grid below.



Which table of values shows only information about this relationship?

a

Number of weeks	Height (cm)
1	2
2	3
6	5

b

Number of weeks	Height (cm)
2	1
3	2
5	6

c

Number of weeks	Height (cm)
1	1
2	2
4	7

d

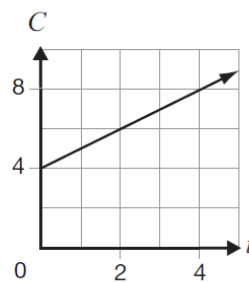
Number of weeks	Height (cm)
2	1
3	2
4	4

- 22 Information about three different relationships between C , in dollars, and t , in hours, is shown below.

t (h)	C (\$)
0	10
2	14
4	18

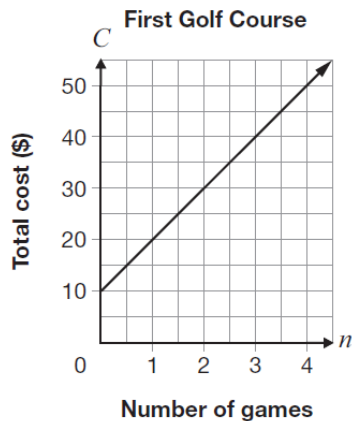
How many of the three relationships between C and t have a rate of change of \$4 per hour?

- a 0
- b 1
- c 2
- d 3



$$C = 4 + 0.5t$$

- 6** Two golf courses offer student memberships. Information about the linear relationships between the total cost, C , in dollars, and the number of games played, n , at these two golf courses is given below.



Number of games, n	Total cost, C (\$)
3	51
5	85
9	153
12	204

Which of the following statements correctly describes the two relationships?

- They are both direct variations.
- The first is a direct variation, and the second is a partial variation with an initial value of \$17.
- The first is a partial variation with an initial value of \$10, and the second is a direct variation.
- The first is a partial variation with an initial value of \$10, and the second is a partial variation with an initial value of \$17.

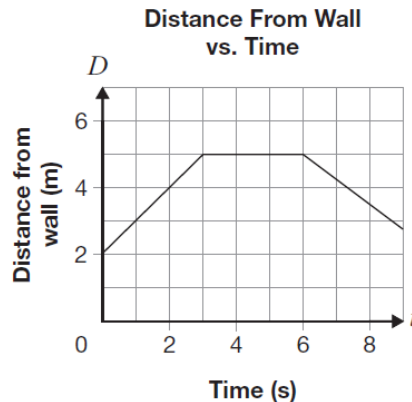
- 8** The total cost of yearbooks for a school is made up of a \$375 set-up fee and \$25 for each yearbook purchased.

There is a linear relationship between the total cost and the number of yearbooks purchased.

What type of variation is this relationship, and what is its initial value?

- direct variation, \$375
- direct variation, \$25
- partial variation, \$375
- partial variation, \$25

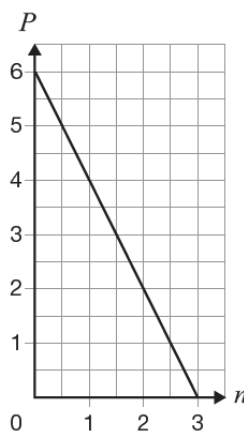
- 7** The graph below represents Joe's distance from a wall as he walks.



Which statement could describe Joe's walk?

- Joe walks toward the wall, stands still and then walks away from the wall.
- Joe walks away from the wall, stands still and then walks toward the wall.
- Joe walks toward the wall, stands still and then continues to walk toward the wall.
- Joe walks away from the wall, stands still and then continues to walk away from the wall.

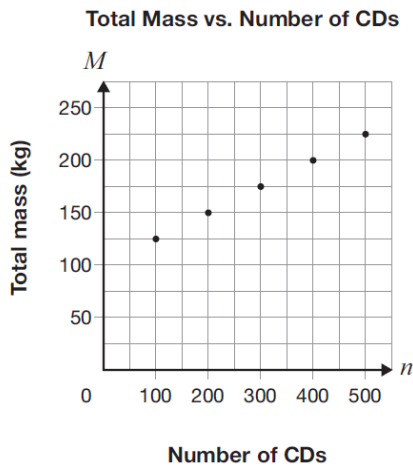
- 8** Consider the graph below.



Which of the following is an equation representing this graph?

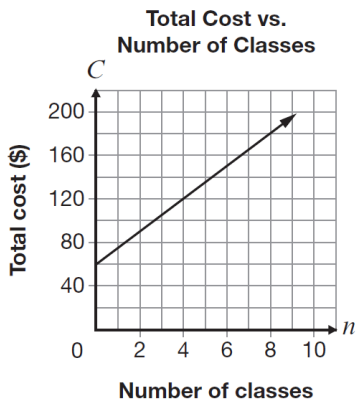
- $P = 2n + 6$
- $P = \frac{1}{2}n + 6$
- $P = -2n + 6$
- $P = -\frac{1}{2}n + 6$

- 9 A company ships CDs in crates of equal size. The graph below shows the relationship between the total mass of a crate and the number of CDs it contains.



Which of the following equations represents the relationship between the total mass of a crate, M , and the number of CDs it contains, n ?

- a $M = 0.25n + 100$
 - b $M = 4n + 100$
 - c $M = 0.25n + 125$
 - d $M = 4n + 125$
- 25 Two gyms offer fitness classes. The graph below shows the total cost for the first gym.

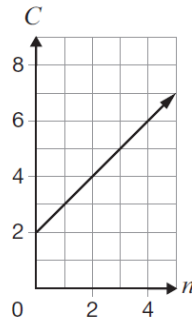


For 4 classes, both gyms have the same total cost.

Which of the following could represent the total cost for the second gym?

- a $C = 60 + 4n$
- b $C = 40 + 15n$
- c The total cost is made up of a membership fee of \$60 and \$10 per class.
- d The total cost is made up of a membership fee of \$40 and \$20 per class.

- 10 A relationship is represented by the following graph.



Which equation represents this relationship?

- a $C = n + 2$
 - b $C = n + 1$
 - c $C = 2n + 2$
 - d $C = 2n + 1$
- 11 A local band pays \$5000 to record its first album and \$0.15 for each CD made.

The band pays \$7000 to record its second album and \$0.10 for each CD made.

How will the graph of the relationship between the total cost and the number of CDs made for the second album differ from the graph for the first album?

The graph of the line for the second album will start

- a lower on the vertical axis and be steeper.
- b higher on the vertical axis and be steeper.
- c lower on the vertical axis and be less steep.
- d higher on the vertical axis and be less steep.

10 Fabric Purchase

Two companies sell fabric online. The total cost, C , in dollars, for n metres of fabric for each company is given below.

- Fabric Fun: $C = 4.25n + 3.00$
- Sew-a-Lot: $C = 6.50n$

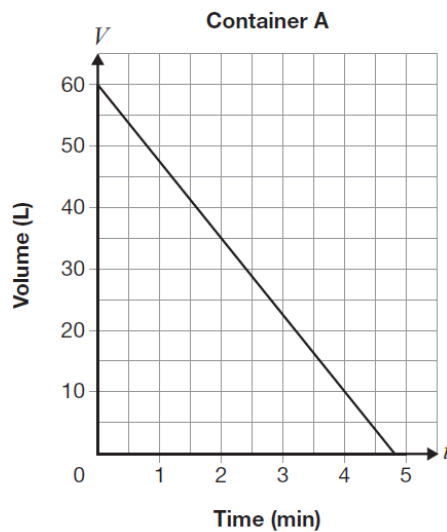
Complete the chart below by determining the initial value, rate of change and type of variation for the relationship for each company.

Justify the type of variation you have selected.

Fabric Fun	Sew-a-Lot
Initial value: _____	Initial value: _____
Rate of change: _____	Rate of change: _____
Type of variation Circle one: Partial Direct	Type of variation Circle one: Partial Direct
Justification	Justification

12 Draining Away

Water drains out of two different containers at constant rates. Information about the volume of water in the containers over time is given below.



Container B

Time (min)	Volume (L)
1	54
3	32
5	10

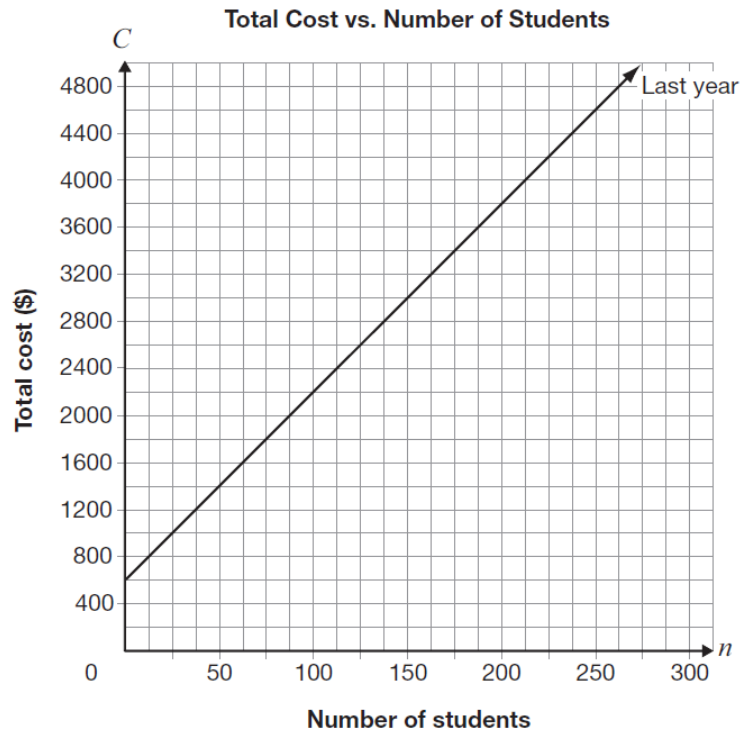
Out of which container is the water draining at a faster rate?

Circle one: Container A Container B

Justify your answer.

11 What's the New Price?

This graph shows information about last year's total cost for a banquet for n students.



This year the cost per person has decreased by \$5, but the initial fee has doubled.

Determine an equation to represent total cost, C , for **this year**.

$$C = \underline{\hspace{10em}}$$

Show your work.

Describe **two ways** the graph for total cost for this year will be different from the graph for total cost for last year.

Justify your answer.

13 Terrific Ts

A school orders T-shirts from Terrific Ts. The total cost is made up of a set-up fee of \$115 and a cost of \$3 per T-shirt.

Terrific Ts requires a minimum order of 25 T-shirts. The school can spend a maximum of \$800.

Determine all the possible values of the total cost, C , and the number of T-shirts, n , for this situation.

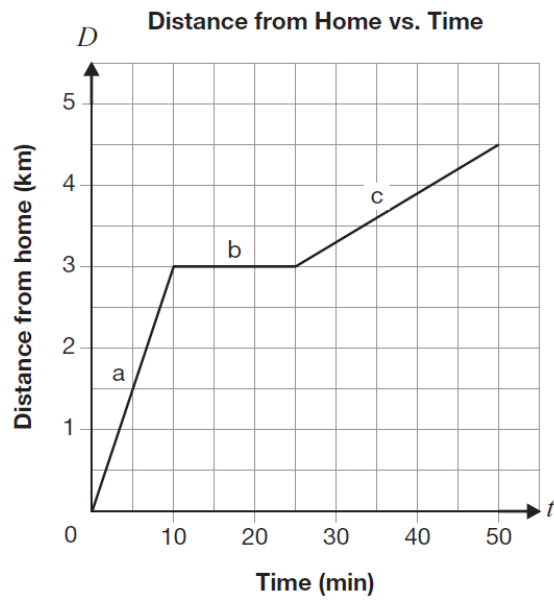
Show your work.

The possible values of n in this situation are _____.

The possible values of C in this situation are _____.

14 Kenny's Big Adventure

The following graph represents the relationship between Kenny's distance from home on a bike ride and time.

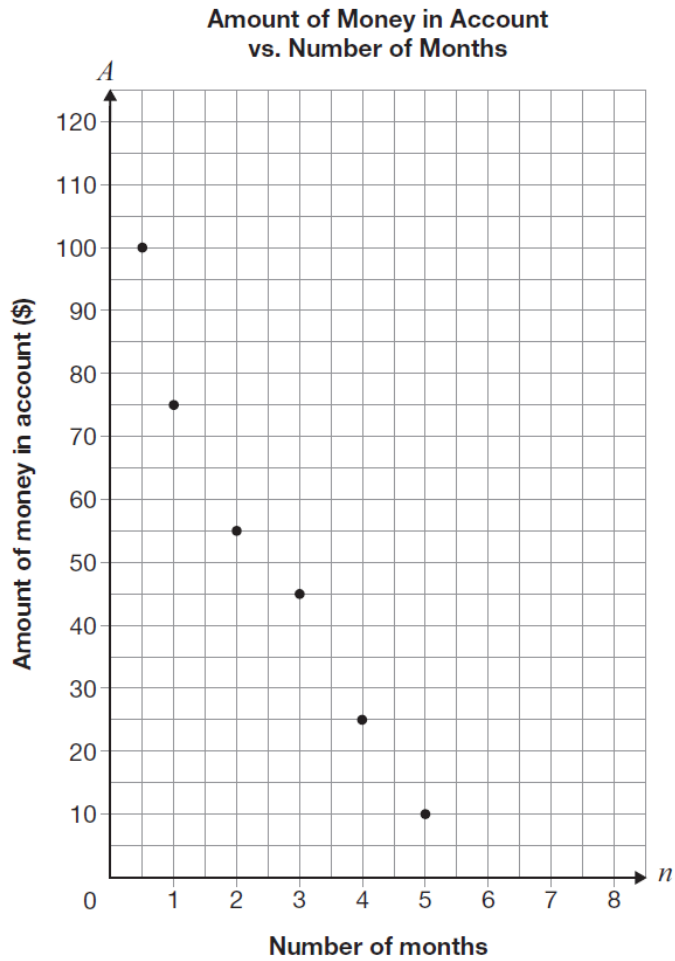


Describe the 3 segments of Kenny's ride. Include information about distance travelled, time, direction and speed, in km/min, for each segment.

Segment	Distance travelled	Time	Direction	Speed (km/min)
a				
b				
c				

13 More Money, Please!

The graph below shows information about the amount of money, A , in Shreya's bank account and the number of months, n , she has had the account.



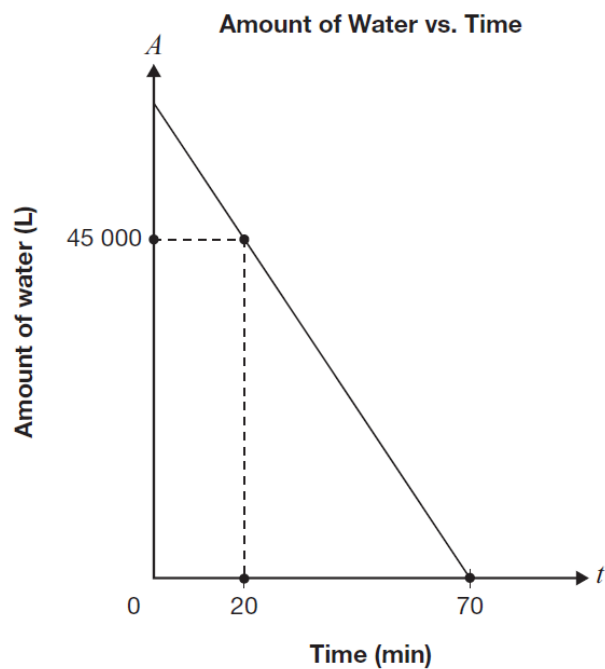
Draw the line of best fit for the data.

Determine the equation of your line of best fit.

Show your work.

14 Water in a Pool

The graph below represents the relationship between the amount of water, A , in a pool as it drains and time, t .



Determine the initial amount of water in the pool and the rate of change of this relation.

Show your work.