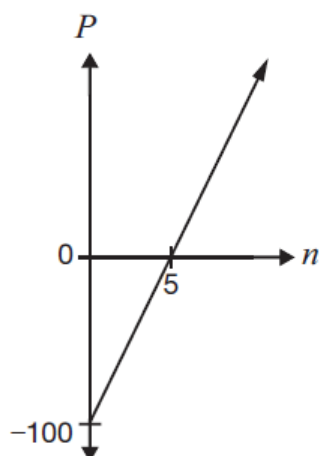1)

Joel has a summer job cutting lawns. The relationship between his profit, P, in dollars, and the number of lawns cut, n, is shown by the graph below.



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

a   a direct variation with an initial value of $5

b   a direct variation with an initial value of −$100

c   a partial variation with an initial value of $5

d   a partial variation with an initial value of −$100

2)

The graph below represents information about the linear relationship between the total cost of a day at the fair and the number of rides taken.

Total Cost vs. Number of Rides Taken
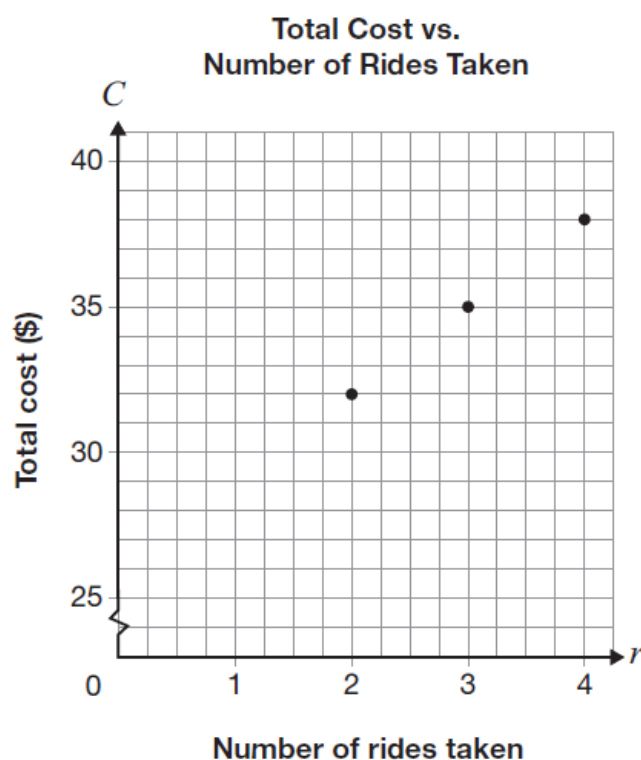
Which of the following equations represents the relationship between C and r?

a $C = 3r$

b $C = 9.5r$

c $C = 0.75r + 26$

d $C = 3r + 26$
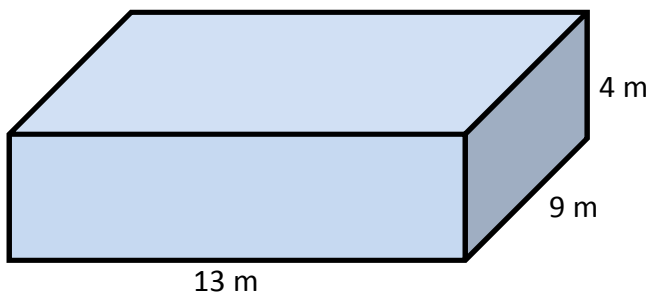
3) Determine the perimeter and area of the following rectangle.

14 cm

3 cm
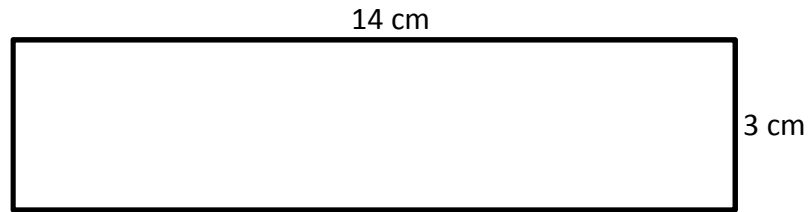
Perimeter   **Area**

4) Determine the volume of the following rectangular prism.

4 m

9 m

13 m

5) A computer has a price of $899.

   a) How much HST (13%) will be charged?

   b) What is the total cost of the computer?

6) Rachel starts with $250 in her bank account and deposits (adds) $40 each week.

   a) Choose an appropriate letter to represent the amount of money in Rachel's account.
   _____

   b) Choose an appropriate letter to represent the number of weeks. _____

   c) Create an equation to model the relationship.

      Equation: _____

   d) Is this situation an example of **direct variation** or **partial variation**. **Explain your answer.**

   e) **Use your equation** to find the amount of money in the account after 15 weeks.

7) Two stores are selling iPods. **Best Buy** sells the iPod for $299 with 20% off. **The Source** sells the iPod for $279 with 10% off.

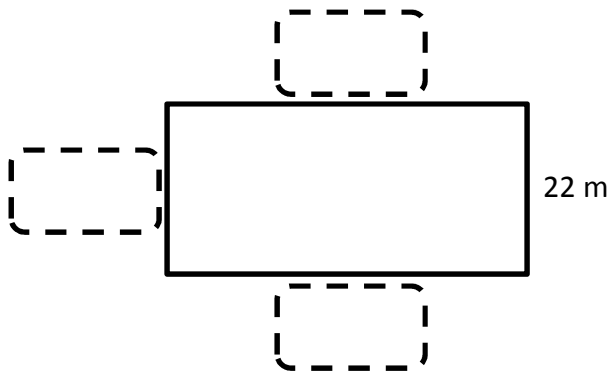   a) Find the cost of the iPod at each store, **including tax** (13% HST).

   b) Which store is offering a better deal?

8) The following rectangle has a **perimeter** of 65 cm. Determine the lengths of its sides.

21 cm
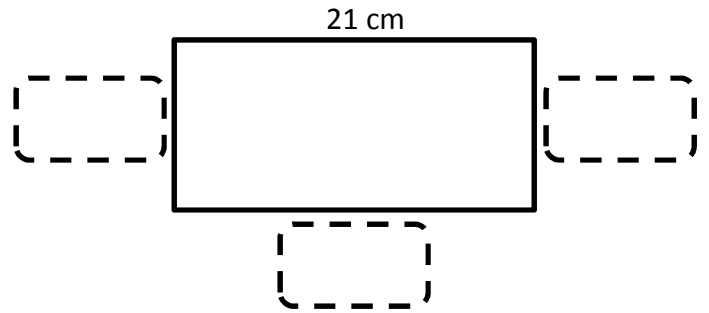
9) The following rectangle has an area of 682 m². Find the lengths of its sides.

22 m

10) Marco was finding the perimeter and area of the following **square**, when he accidentally spilled ketchup on his work. Fill in each ketchup spot with the correct values.

cm

cm
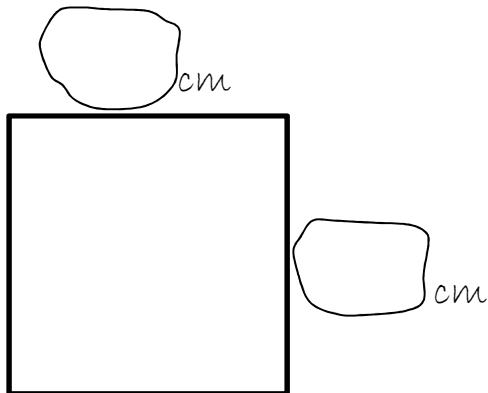
Perimeter = ___56 cm___

Area = _____

11) Paul was working with a square that has an area of 100 m². To find how long each side is, he did the following calculation:

$$Side\ length = 100 \div 4$$
$$= 25$$

Therefore, each side is 25 m long.

Is Paul correct? Explain.

12) Determine an equation to represent each of the following relations.

a)

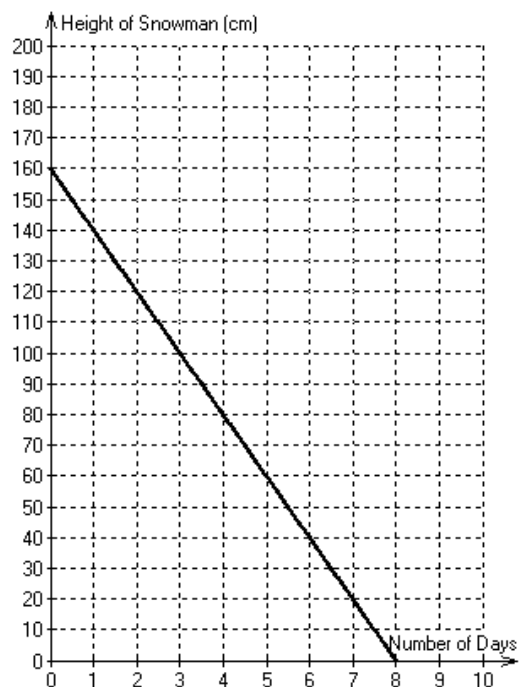| Number of Minutes	Distance from Home (m)
0	50
1	160
2	270
3	380
4	490

Equation: _____

b)

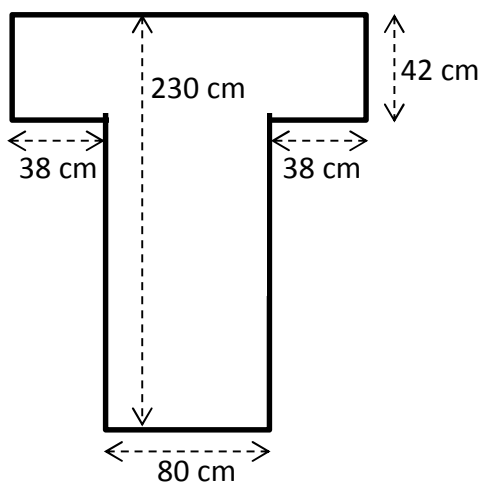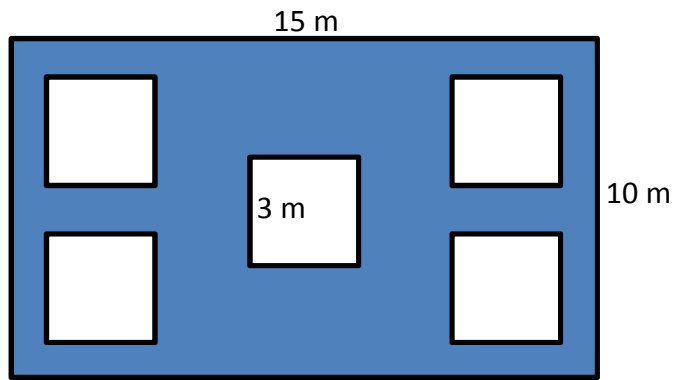| Number of Kilometers Driven	Total Cost ($)
0	5
20	85
40	165
60	245
80	325

Equation: _____

c)

Equation: _____

13) Raphael is painting sign. The letter "T" on the sign is shown below. Determine the area of the letter's face.

230 cm

42 cm

38 cm

38 cm

80 cm

14) Five **squares** are removed from the rectangle shown below. Find the area of the shaded region that remains.

15 m

3 m

10 m

15) Michelle is constructing a rectangular garden. She has 36 m of fence to enclose the garden.

   a) Draw as many gardens as possible without using decimal values and **calculate the area of each garden**.

   b) If Michelle wants to construct the largest garden possible, what length and width should she choose?

16) A machine part consists of a rectangular prism with identical smaller rectangular prisms on the ends, as shown below. Determine the total volume of the machine part.

3.2 cm

4.1 cm

1.4 cm

3.5 cm

8.2 cm