

KNOW / 15

APP / 12

INQ / 6

COMM / 9

**MFM1P – UNIT 1 TEST****PART ONE - MULTIPLE CHOICE – CIRCLE THE CORRECT ANSWER. (K – 2 marks each)**

1)

Kim owes her mother \$100. She will pay her back \$5 each week.

Which table shows data about the amount Kim still owes for the first 5 weeks of payments?

a

Week	Amount still owing
0	\$0
1	\$5
2	\$10
3	\$15
4	\$20
5	\$25

b

Week	Amount still owing
0	\$100
1	\$105
2	\$110
3	\$115
4	\$120
5	\$125

c

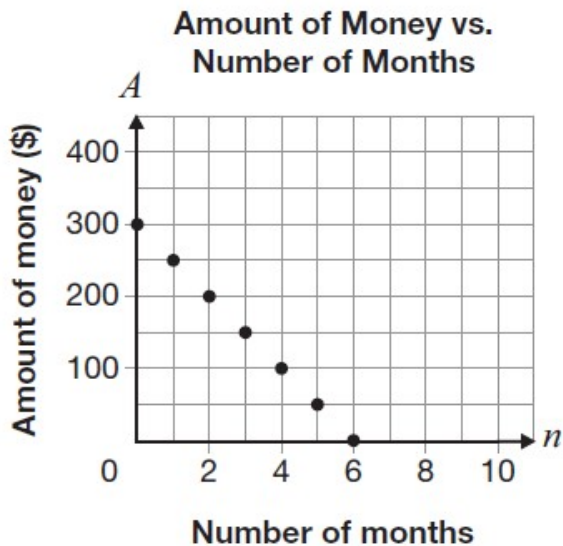
Week	Amount still owing
0	\$100
1	\$80
2	\$60
3	\$40
4	\$20
5	\$0

d

Week	Amount still owing
0	\$100
1	\$95
2	\$90
3	\$85
4	\$80
5	\$75

2)

Information about the amount of money Aamari has left at the end of each month is shown by the graph.



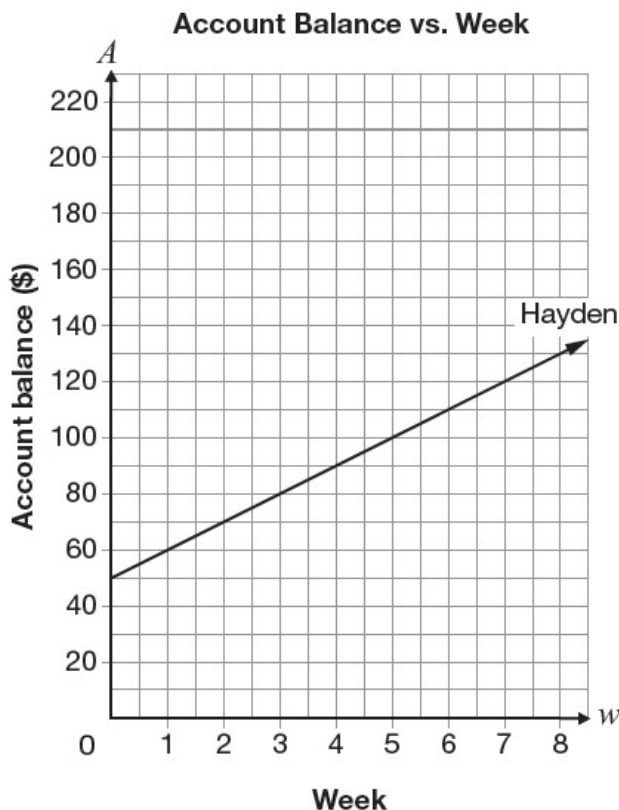
Aamari started with \$300 and spent the same amount each month. He reached \$0 after 6 months.

If Aamari had spent \$100 **more** per month, and had started with \$300, when would he have reached \$0?

- a 2 months
- b 3 months
- c 6 months
- d 8 months

3)

Ariel and Hayden each have money in a bank account that does not give any interest. Hayden's weekly account balance is shown by the graph below.



Ariel starts with \$200 in her account and spends \$20 each week, without making any deposits.

Which of the following is true?

- a Hayden will have less money in his account than Ariel in Week 5.
- b Hayden will always have more money in his account than Ariel.
- c Ariel starts with less money in her account than Hayden.
- d Ariel has more money in her account than Hayden in Week 4.

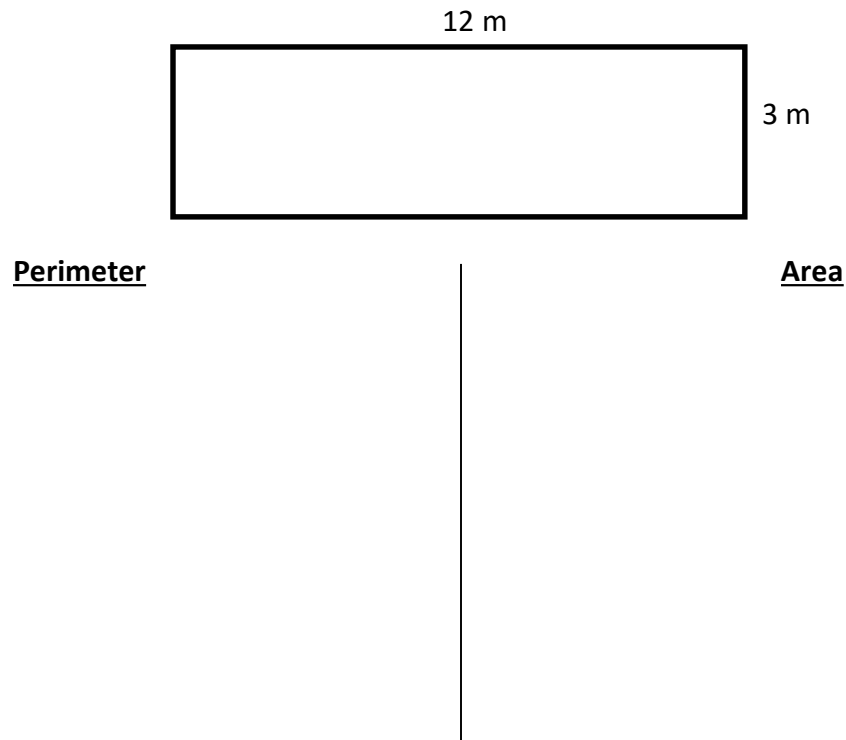
**PART TWO – FULL SOLUTION – SHOW ALL WORK LEADING TO YOUR FINAL ANSWER.**

4) Lionel buys two video games for a price of \$124.99.

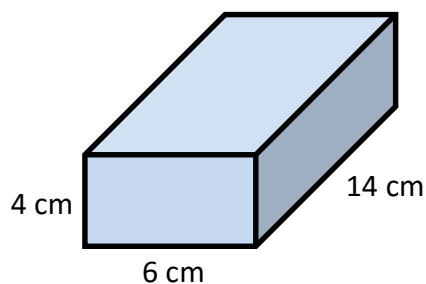
a) How much tax (13% HST) will be charged? (*K – 2 marks*)

b) What is the total cost of the video games including tax? (*K – 1 mark*)

5) Determine the perimeter and area of the following rectangle. (*K – 4 marks*)



6) Determine the volume of the following rectangular prism. (*K – 2 marks*)



7) A balloon has an initial height of 20 m and falls to the ground at a rate of 0.5 m/s.

a) Choose an appropriate letter to represent the height of the balloon. \_\_\_\_\_

Choose an appropriate letter to represent the number of seconds. \_\_\_\_\_

(A – 1 mark)

b) Create an equation to model the relationship.

Equation: \_\_\_\_\_

(A – 2 marks)

c) Is this situation an example of **direct variation** or **partial variation**. **Explain your answer.** (A – 2 marks)

d) **Use your equation** to find the height of the balloon after 16 seconds.  
(A – 2 marks)

8) Two stores are advertising a sale on a camera. Photoworks is selling the camera for \$249 with 20% off and of Image World is selling it for \$299 with a 35% discount.

a) Determine the total cost of the camera at each store, including tax (13% HST). (A – 4 marks)

**Photoworks**

**Image World**



b) How much money would be saved by purchasing the camera at Image World instead of Photoworks? (A – 1 mark)

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

(1 – 3 marks)

a)

Number of Toppings	Cost of Ice Cream Sundae (\$)
0	2.25
1	3.00
2	3.75
3	4.50
4	5.25

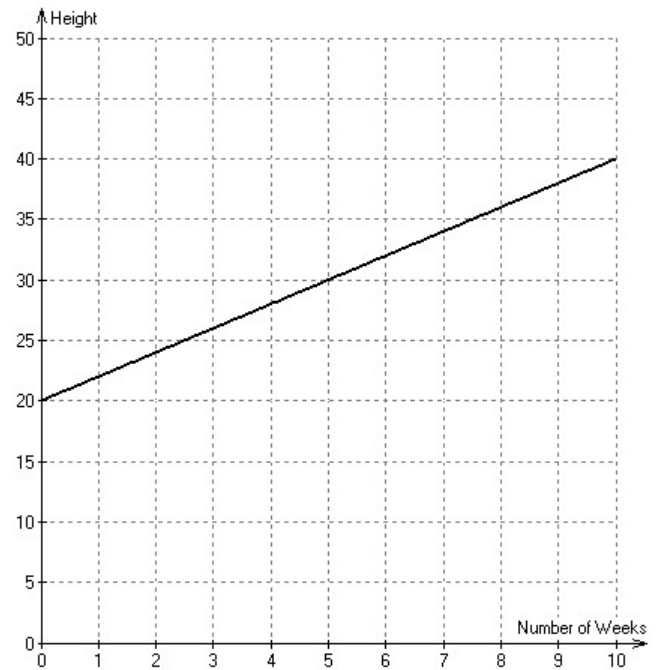
Equation: \_\_\_\_\_

b)

Number of Minutes	Temperature (°C)
0	78
10	63
20	48
30	33
40	18

Equation: \_\_\_\_\_

c)



Equation: \_\_\_\_\_

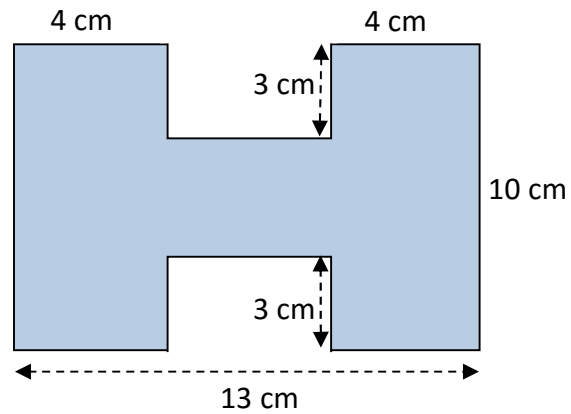
10) Rachel is planning to fence off a rectangular patio in her backyard. She has 32 m of fencing to enclose the patio.

a) Draw and label 3 possible rectangles that Rachel could use for the design of her patio.

**Find the area of each rectangle. (1 – 2 marks)**

b) If Rachel wants her patio to have the largest area possible, what should its length and width be? (1 – 1 mark)

11) Determine the perimeter and area of the letter “H” shown below. (C – 5 marks)



Perimeter

Area

12) A math student was given the following problem:

*“A man walks from his house to the grocery store. The distance from his house to the store is 452 m and he walks at a speed of 1.2 m/s. Find an equation to describe the man’s distance from the grocery store.”*

The student’s answer was  $d = 452 + 1.2s$

Is this answer correct? **Explain.** (C – 2 marks)

13) Determine the volume of the figure shown below. (C – 2 marks)

