

MATH 10 - CHAPTER 5 - PRETEST

parent/guardian signature _____

Multiple Choice: PART 1 - NON-CALCULATOR - 20 MIN

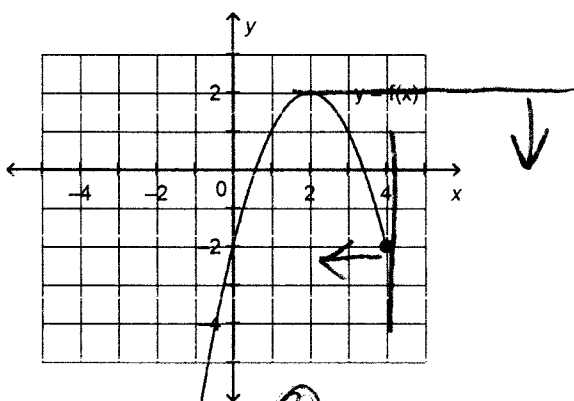
Circle the choice that best completes the statement or answers the question.

1. Identify the domain of this relation.

$$\{(8, 10), (5, 7), (9, -11), (6, -8)\}$$

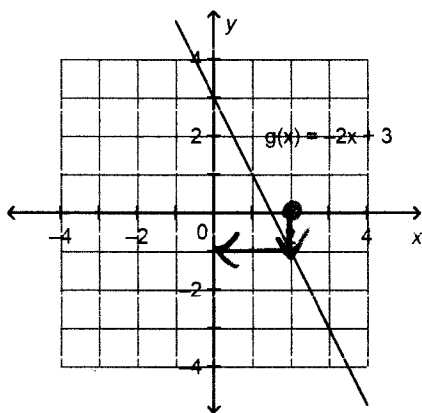
- a. $\{-8, 7, 9, 10\}$ b. $\{-11, -8, 7, 10\}$ **c. $\{5, 6, 8, 9\}$** d. $\{5, 6, 9, 10\}$

2. Determine the domain and range of the graph of this function.



- a. $2 \leq x \leq 4; y \leq 2$ **b. $x \leq 4; y \leq 2$** c. $x \leq 2; y \leq 4$ d. $x \leq 4; -2 \leq y \leq 2$

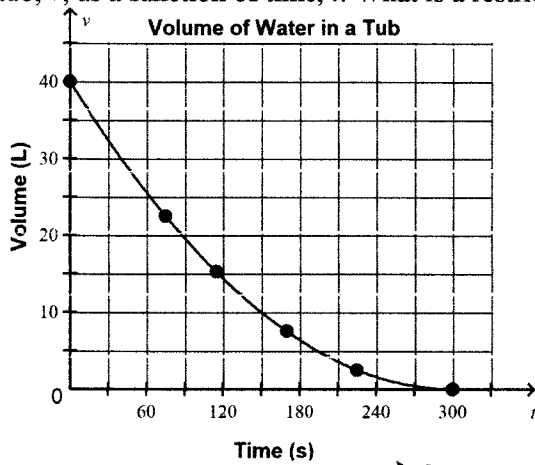
3. This is a graph of the function $g(x) = -2x + 3$. Determine the range value when the domain value is 2.



$y = ?$ $x = 2$

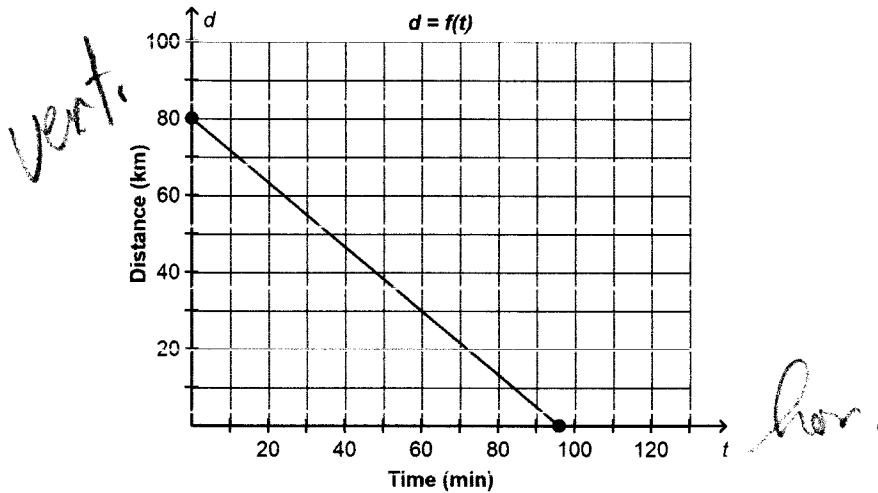
- a. 0.5 b. 7 **c. -1** d. 1

4. A bathtub contains 40 L of water. The plug is pulled. This graph shows the volume of water remaining in the tub, v , as a function of time, t . What is a restriction on the range?



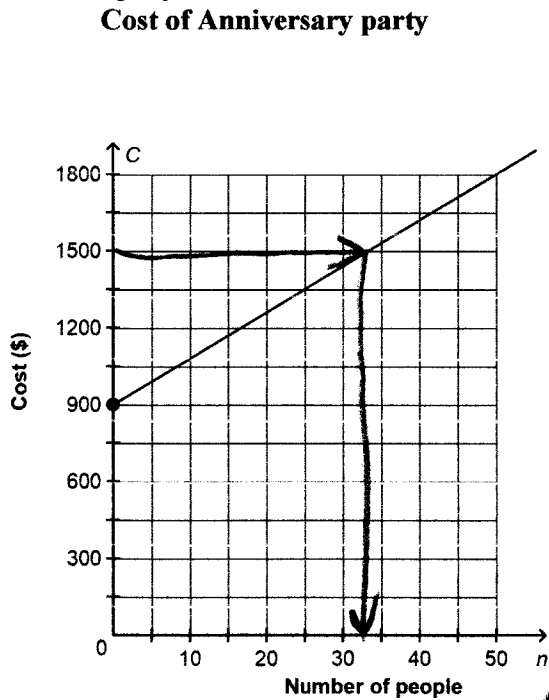
- a. The range can only contain negative numbers. ~~X~~
- b. The range cannot contain negative numbers. ✓
- c. The range can only contain whole numbers up to 40. ~~X~~
- d. The range can only contain whole numbers greater than 40. ~~X~~

5. This graph shows distance, d kilometres, as a function of time, t minutes. Determine the vertical and horizontal intercepts.



- a. Vertical intercept: 80 ✓
Horizontal intercept: 96 ✓
- b. Vertical intercept: 64
Horizontal intercept: 96
- c. Vertical intercept: 96
Horizontal intercept: 80
- d. Vertical intercept: 80 ✓
Horizontal intercept: 64

6. The graph shows the cost of hosting an anniversary party. What is the maximum number of people who can attend the party for a cost of \$1500?



- a. 61 people b. 38 people **c. 33 people** d. 27 people

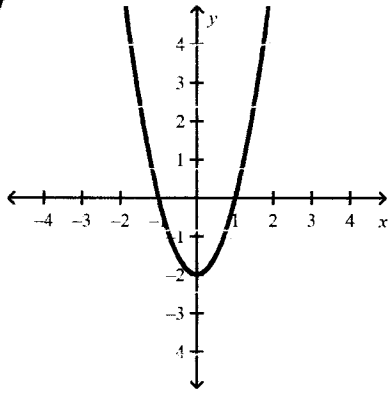
7. Identify the independent variable and the dependent variable for this table of values.

Hours Worked, <i>h</i>	Gross Pay, <i>P</i> (\$)
4	38.00
5	47.50
9	85.50
20	190.00
30	285.00

- a. independent variable: *P*
dependent variable: *h*
- b. independent variable: domain
dependent variable: range
- c. independent variable: gross pay
dependent variable: hours worked
- d. independent variable: hours worked
dependent variable: gross pay**

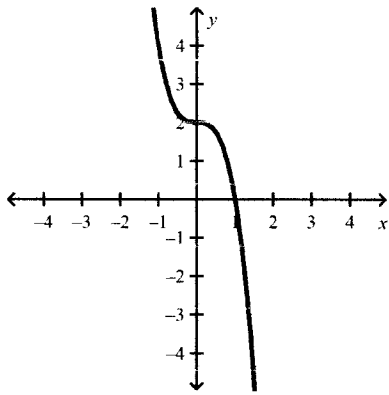
8. Which graph represents the relation $2x^2 - 2$?

a.

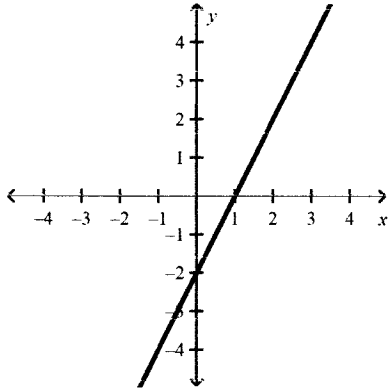


$x=0$ $y=-2$
 $x=1$ $y=0$
 $x=2$ $y=6$

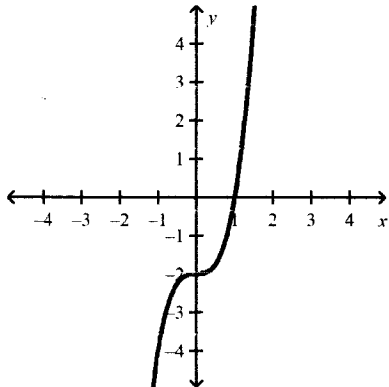
b.



c.



d.



9. Which scenario can be represented by a continuous relation?
- a. the shoe sizes of everyone in a grade 10 mathematics class
 - b. the speed of a sky-diver from the time he jumps out of a plane to when the diver lands on the ground
 - c. the sum of rolling two dice
 - d. the fees charged for parking a car in a parking lot

10. Which statement describes the domain $\{5 < x < 9\}$?
- a. real numbers greater than or equal to 5 and less than or equal to 9
 - b. real numbers greater than 5 and less than 9
 - c. real numbers greater than 9 and less than 5
 - d. real numbers greater than or equal to 9 and less than or equal to 5

11. For the line $7x - 5y - 35 = 0$, which statement is true?

- a. The x -intercept is 5 and the y -intercept is -7.
- b. The x -intercept is 5 and the y -intercept is 7.
- c. The x -intercept is -7 and the y -intercept is 5.
- d. The x -intercept is -5 and the y -intercept is 7.

$$x=0$$

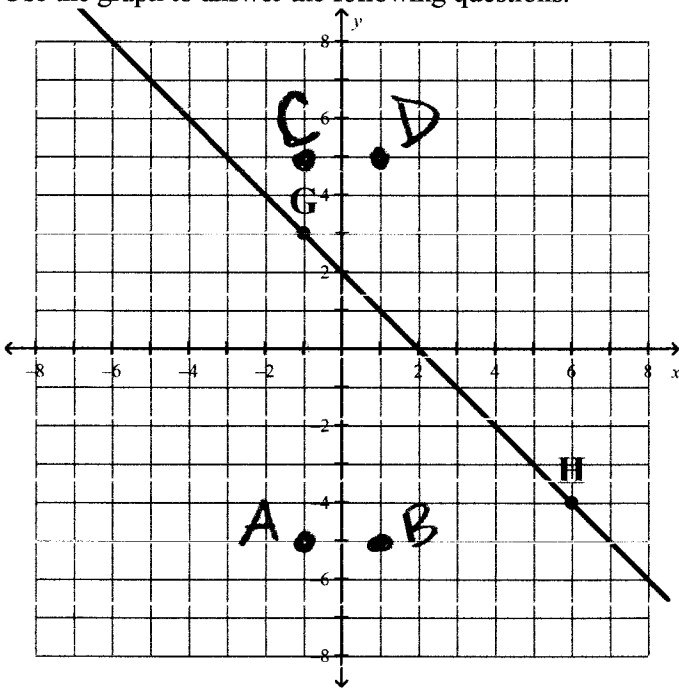
$$\begin{aligned} -5y &= 35 \\ y &= -7 \end{aligned}$$

$$y=0$$

$$\begin{aligned} 7x &= 35 \\ x &= 5 \end{aligned}$$

**Short Answer: PART 2 - CALCULATOR MAY BE USED AFTER 20 MIN
SHOW YOUR WORK**

12. Use the graph to answer the following questions.



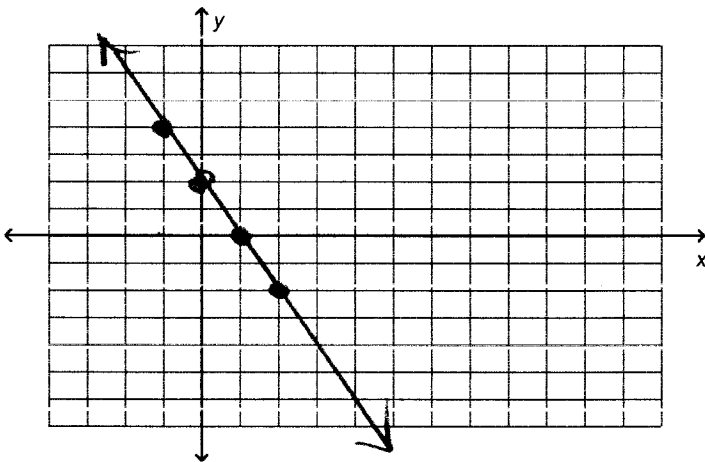
a) Identify the coordinates of points G(-1, 3) and H(6, -4).

b) Plot and label points A(-1, -5) B(1, -5) C(-1, 5) D(1, 5)

Problem

13. Sketch a graph of the linear function $y = -2x + 2$. (scale on graph is by 1)

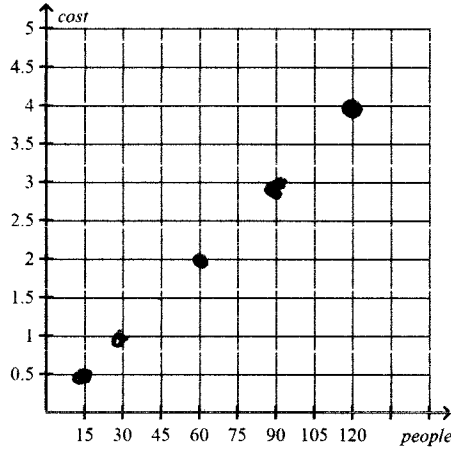
x	-1	0	1	2
y	4	2	0	-2



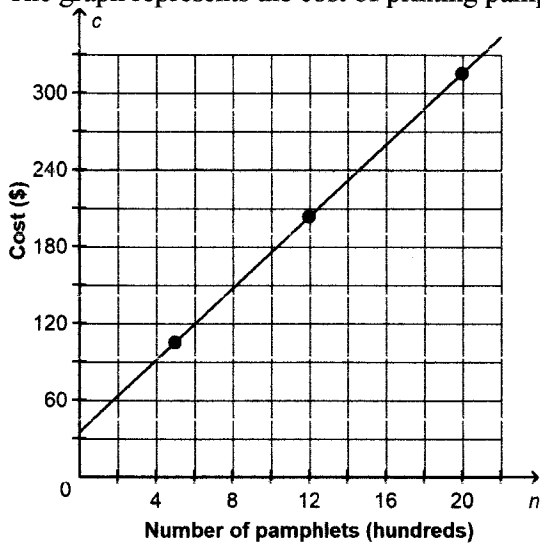
14. For this table of values graph the data. Will you join the points? Justify your answer.

People, n	Cost, C (\$)
15	0.50
30	1.00
60	2.00
90	3.00
120	4.00

No — cannot have parts of people



15. The graph represents the cost of printing pamphlets.



Identify i) dependent variable

Cost

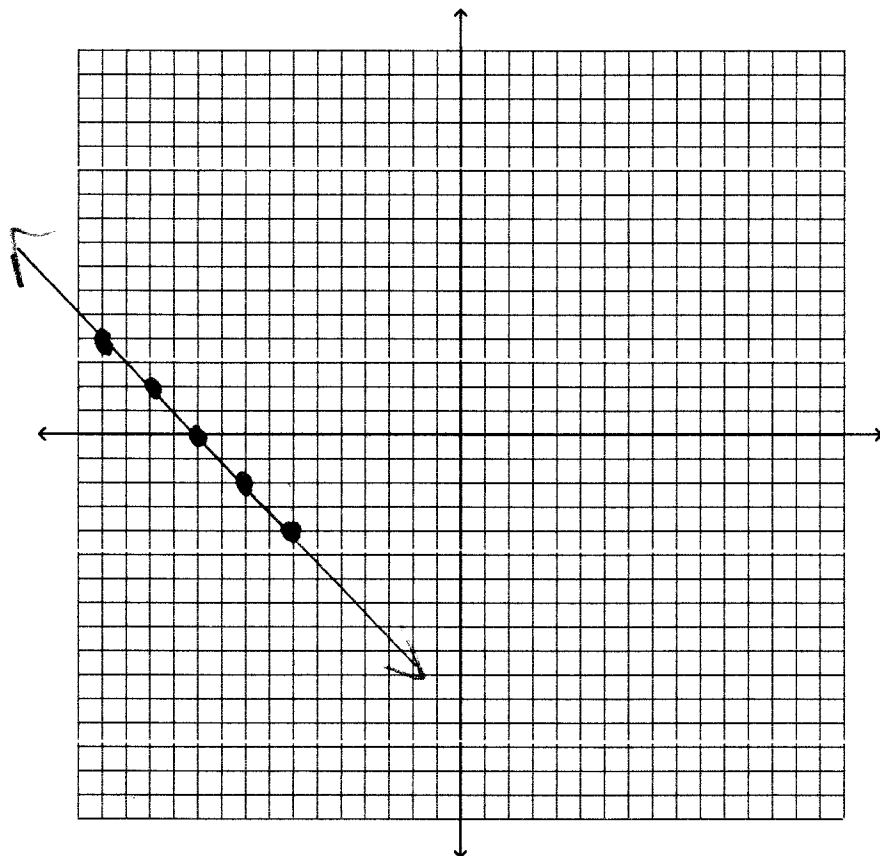
ii) independent variable

of pamphlets

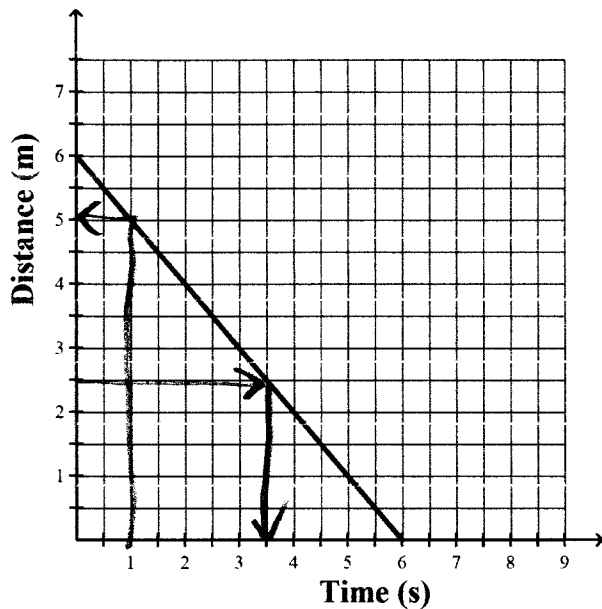
16. a) Graph the relation given below. (scale of 1)
b) Should you connect the dots? Explain.

YES, just x, y
no reality
or restriction

x	y
-7	-4
-9	-2
-11	0
-13	2
-15	4



17. The distance-time graph illustrates Abigail's walk in front of a motion sensor.



a) Identify the horizontal intercept and explain what it means or represents.

↓ 6 sec. took her 6 sec to walk 6 m

b) Identify the vertical intercept and explain what it means or represents.

↓ 6 m start/initial distance

c) How long did it take Abigail to be 2.5 m from the sensor?

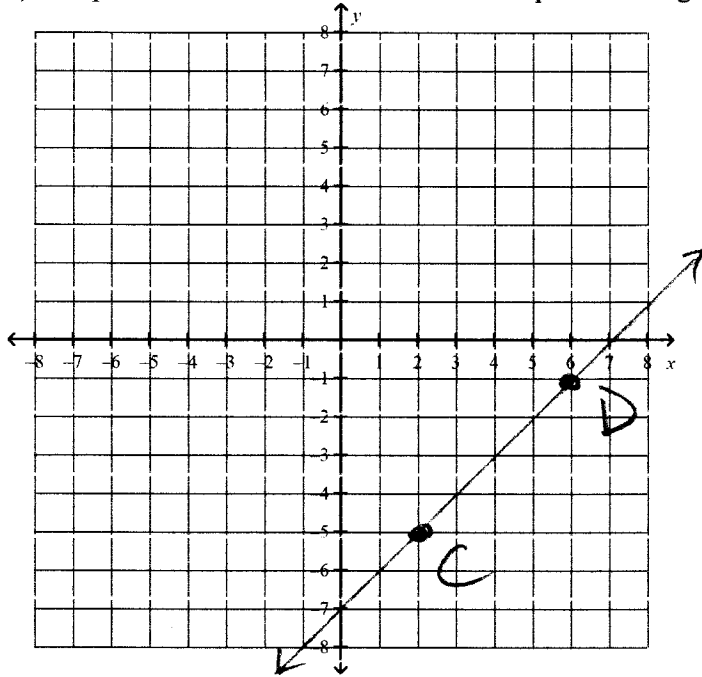
3.5 s.

d) At 1s, what was her distance?

5 m

18. Points $C(2, -5)$ and $D(6, -1)$ are on a line.

a) Plot points C and D and draw the line that passes through them.



b) Make a table of values with x -values from 0 to 4, gathering the information from the line you have drawn.

x	y
0	-7
1	-6
2	-5
3	-4
4	-3