

(K)

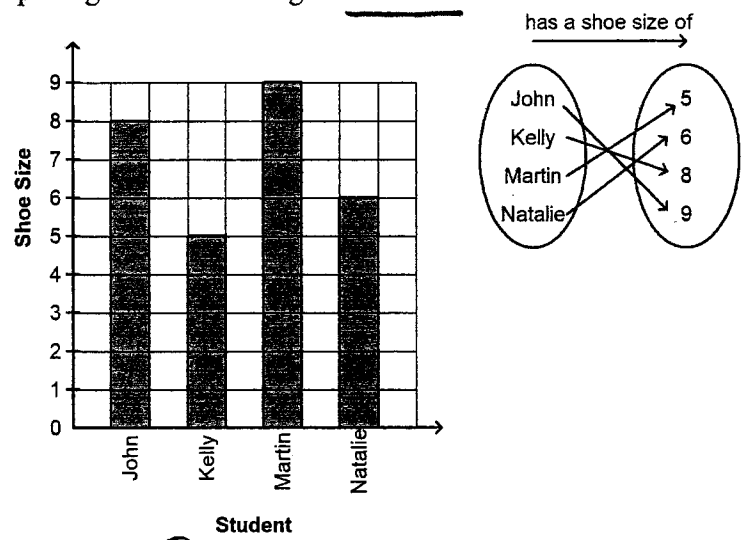
MATH 10 - CHAPTER 6 - PRETEST

parent/guardian signature _____

Multiple Choice

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

1. The graph and the arrow diagram represent the same relation. The graph is correct but the arrow diagram is not. Which pairing in the arrow diagram is correct?



- a. John, 9 **b. Natalie, 6** c. Kelly, 8 d. Martin, 8

2. The members of the Salvatore family can be associated with their masses, in kilograms. Consider the relation represented by this set of ordered pairs. Describe the relation in words.

$$\{(Sallio, 61.8), (Torvo, 71.4), (Maria, 84.8), (Isabell, 94.5), (Tony, 107.0)\}$$

- a. The relation shows the association "has a mass, in kilograms, of" from a set of masses to a set of members of the Salvatore family.
- b. The relation shows the association "has a mass, in ~~grams~~, of" from a set of members of the Salvatore family to a set of masses.
- c. The relation shows the association "has a mass, in kilograms, of" from a set of members of the Salvatore family to a set of masses.**
- d. The relation shows the association "has a ~~height~~, in kilograms, of" from a set of members of the Salvatore family to a set of masses.

3. For the function $f(x) = -3x + 8$, determine $f(-2)$.

$$\begin{aligned} & -3(-2) + 8 \\ & 6 + 8 = \end{aligned}$$

- a. 7 b. 2 **c. 14** d. 3

4. For the function $f(x) = -3x + 8$, determine x when $f(x) = -25$.

$$\begin{aligned} -25 &= -3x + 8 \\ -11 - 33 &= -3x \\ 11 &= x \end{aligned}$$

- a. 83 b. -67 **c. 11**

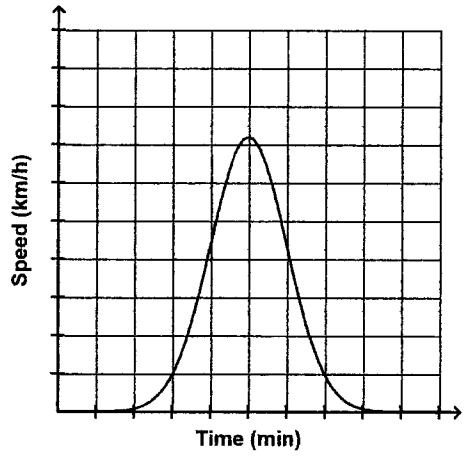
5. Which set of ordered pairs does not represent a function?

- i) $\{(2,5), (3,8), (4,11), (2,-1)\}$ *repeated x value*
- ii) $\{(4,6), (5,-7), (7,9), (8,-10)\}$
- iii) $\{(-3,-8), (-1,-6), (-2,5), (0,7)\}$
- iv) $\{(7,0), (4,-1), (-6,5), (-8,0)\}$

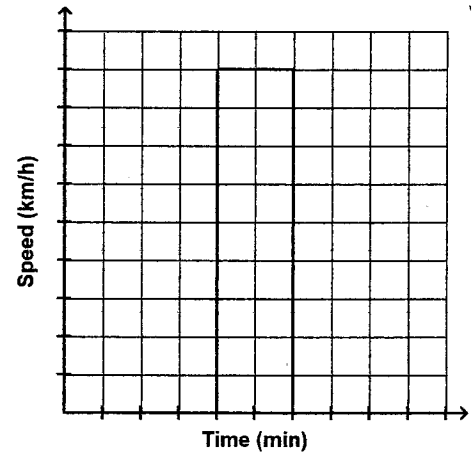
- a. i
- b. ii
- c. iv
- d. iii

6. A person in a car drives away from a stop sign, cruises at a constant speed, and then slows down as she approaches another stop sign. Which graph best represents this situation?

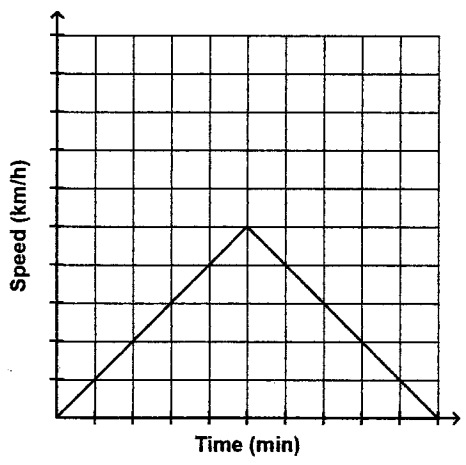
a.



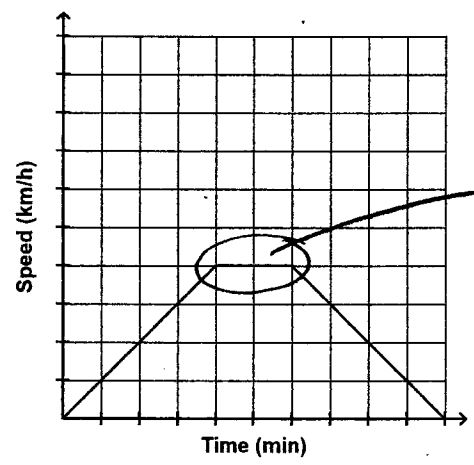
c.



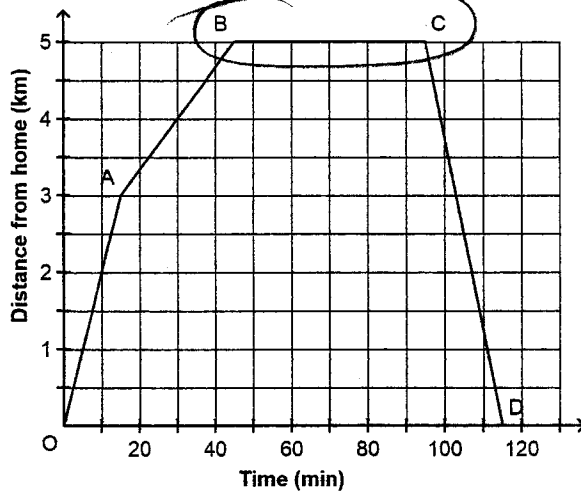
b.



d.

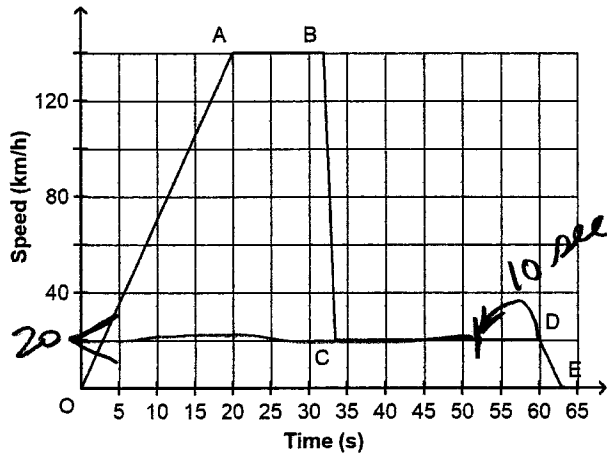


7. Joshua went on a bike ride. For part of the ride, Joshua stopped to play in a park with a friend. Which segment of the graph best describes this part of his bike ride?



- a. CD b. AB c. OA d. BC

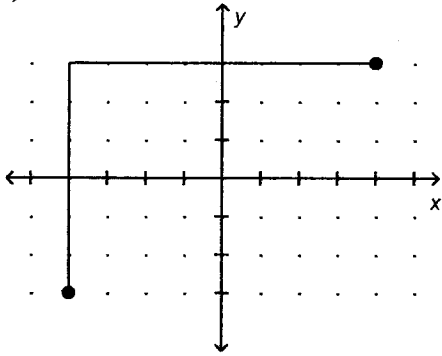
8. This graph shows the free-fall speed of a skydiver as a function of time. At what speed was the skydiver travelling 10 s before she reached the ground?



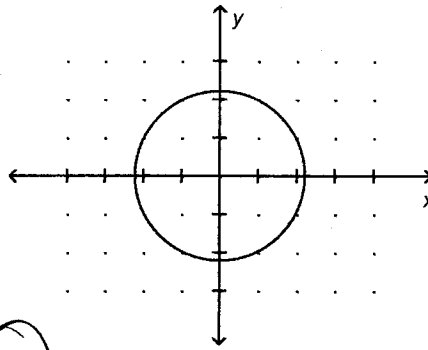
- a. 20 km/h b. 140 km/h c. 30 km/h d. 10 km/h

9. Which of these graphs represents a function?

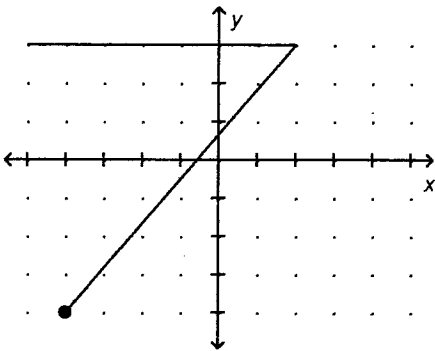
i)



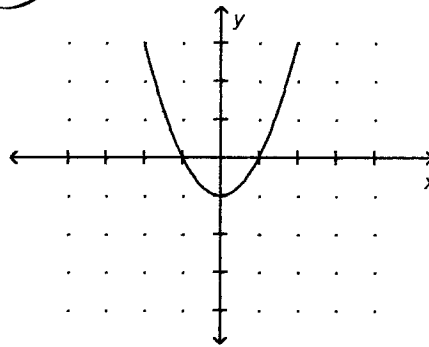
ii)



iii)



iv)



*Vertical
line
test*

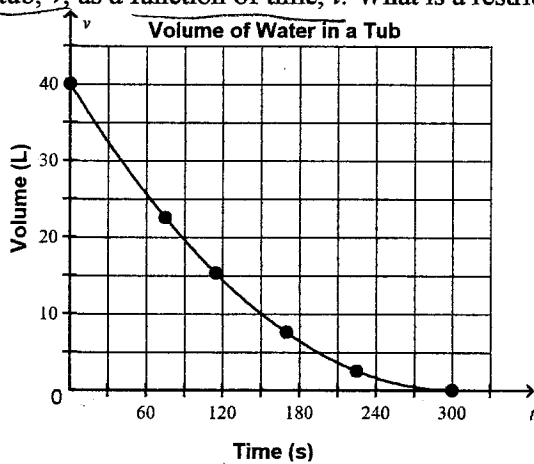
a. iv

b. ii

c. i

d. iii

10. 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?



Volume

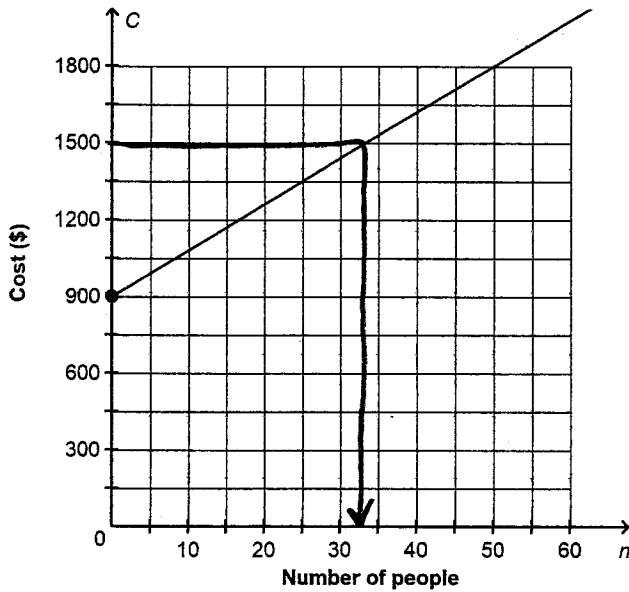
a. The range can ~~only~~ contain negative numbers.

b. The range cannot contain negative numbers.

c. The range can only contain whole numbers up to 40.

d. The range can only contain whole numbers greater than 40.

11. 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?
Cost of Anniversary party



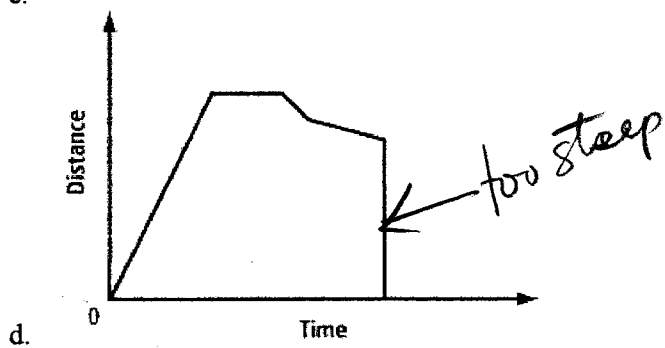
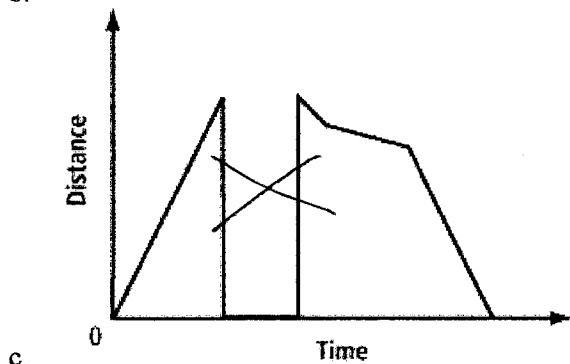
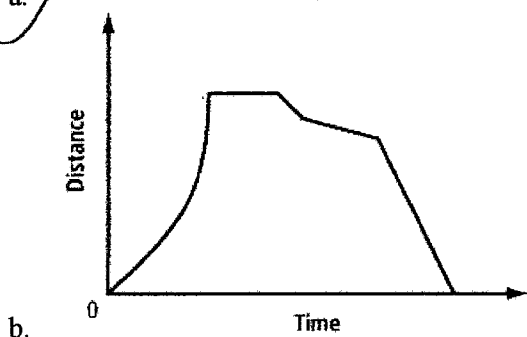
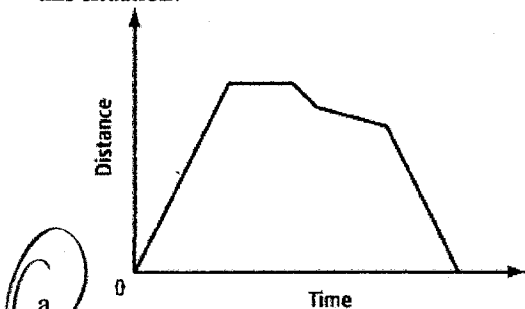
- a. 61 people b. 38 people **c. 33 people** d. 27 people

12. Evaluate $f(-2)$ for the function $f(x) = 4x^2 - x - 5$.

- a. -19
 b. 9
 c. -23
d. 13

$$\begin{aligned}
 &4(-2)^2 - (-2) - 5 \\
 &4(4) + 2 - 5 \\
 &16 + 2 - 5 \\
 &13
 \end{aligned}$$

13. Olivia walks to a friend's house at a constant rate. After visiting for a short time, Olivia and her friend start walking back to Olivia's house. On the way, they meet up with another friend. The three girls continue to walk at a slower pace. Olivia then realizes that she is late and walks at a faster constant rate until she gets home. Which distance-time graph represents this situation?



Short Answer

14. For the function $f(x) = -\frac{7x}{12} - 8$, determine $f(6)$

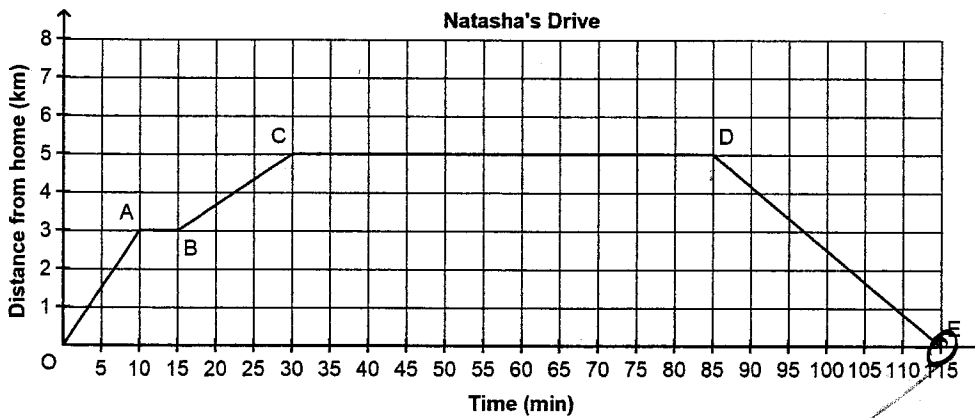
WORK

$$\begin{aligned} & -\frac{7(6)}{12} - 8 \\ &= -\frac{7}{2} - \frac{8}{1} \\ &= -\frac{23}{2} \text{ OR } -11.5 \end{aligned}$$

ANSWER

$$-\frac{23}{2} \text{ OR } -11.5$$

15. Natasha spent part of the afternoon running errands. This graph shows her distance from home as a function of time.



- a) How far did Natasha drive in total?

$$5 \text{ from} + 5 \text{ back} = 10 \text{ km}$$

- b) How long was Natasha away from home?

115 mins.

- c) Give a possible reason for the horizontal line CD, in Natasha's story line.

- she met someone and they are eating
 - she is shopping at one location
 -
 -

Problem

16. This graph shows the volume of water in Katherine's water bottle as she cycles around town. Describe what is happening in the story for the following line segments in the graph

FG volume ↓, she either drank, spilled or poured out most of her water

HI volume ↑, she filled her water bottle

KL volume constant, she did not drink any water

