

Name _____

Date _____

Quarterly Exam Review - Chapter 2

Algebra

1. Solve for x algebraically for each inequality.

a) $5(x - 4) + 6 > 36$

b) $-3x + 7 \leq 2x - 13$

c) $-6(x + 8) < 12$

d) $\frac{1}{6}(10x + 15) \geq 3(x - 6)$

2. Which relation is a function? Explain why you chose your answer.

a) $\{(3,7), (2,7), (3,9), (-1,4)\}$

b) $\{(-5,6), (-4,2), (-4,0), (1,1)\}$

c) $\{(0,5), (1,5), (2,5), (3,5)\}$

d) $\{(0,0), (1,9), (2,15), (2,18)\}$

3. The table below shows the average diameter of a person's pupil as he or she grows older. What is the average rate of change, in millimeters per year, of a person's pupil diameter from age 10 to age 25?

Age (years)	Average Pupil Diameter (mm)
5	9.4
10	8.6
15	7.9
20	7.0
25	6.2
30	5.4

4. Which of the following equations is equivalent to $y = 6x - 3$?

a) $2y + 12x = -6$

b) $2y + 12x = 6$

c) $2y - 12x = -6$

d) $2y - 12x = 6$

5. If $g(x) = kx + 6$ and $g(4) = 34$, what is the value of k ?

6. What is the equation of a line that has a slope of $\frac{1}{2}$ and passes through the point (0,-18) in slope intercept form?

7. What is the equation of a line that has a slope of -3 and passes through the point (-6,2) in slope intercept form?

8. Diana is studying the function represented by $f(x) = \{(1,4), (8,-2), (3,7), (0,9)\}$. She believes if she added the point (3,5) to the function, it will not remain a function. Is Diana correct? Explain.

9. A family is traveling from their home to a vacation resort hotel. The table below shows their distance from home as a function of time.

Time (hours)	0	3	5	8
Distance (miles)	0	270	450	720

Determine the average rate of change between hour 3 and hour 8, including units.

10. Solve for x for each inequality.

a) $16x - 2(3x - 5) \leq 2(x - 13) - 5x - 3$

b) $4(x + 2) - 15 > -2(x + 7) - 5$

11. Which set of ordered pairs has the greatest average rate of change?

a) (0,5) and (4,25)

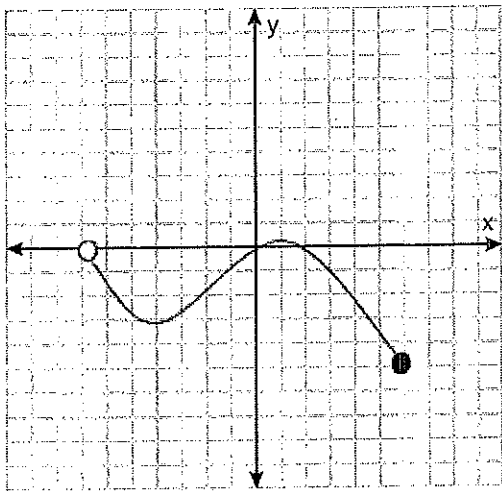
b) (-2,-6) and (8,29)

c) (3,6) and (12,42)

d) (-1,10) and (-3,28)

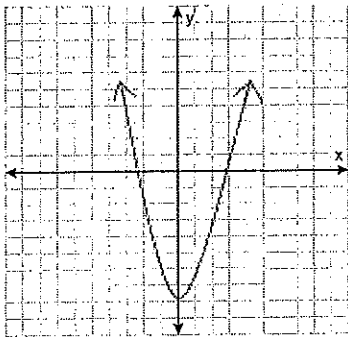
12. The cost of a box of Tic Tacs in a vending machine is \$0.80. The cost of a bottle of water in the same machine is \$1.45. Jennifer has \$16 to spend on Tic Tacs and bottles of water for her team and she must buy 8 boxes of Tic Tacs. If b represents the number of bottles of water, write an inequality that represents the maximum number of bottles she could buy.

13. Identify the domain and the range of the following graph.

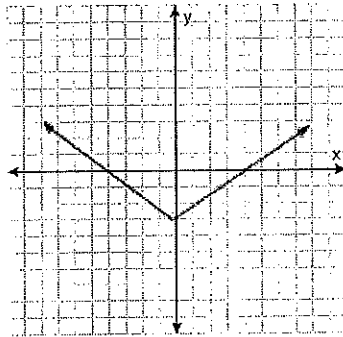


14. Which of the following is not a function?

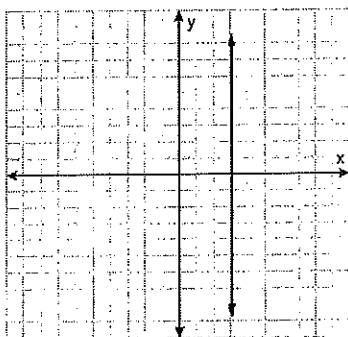
a)



b)



c)



d)

