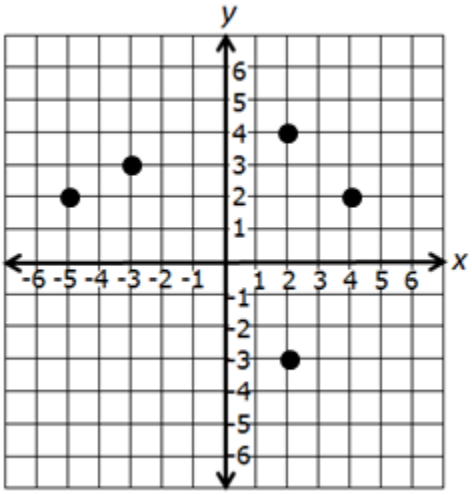
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Review for BM Q2 Benchmark 22-23

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1. A relation is graphed as shown. What is the domain of this relation?



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2. A function consists of the ordered pairs shown. { (–3, 3), (–1, –3), (2, 4), (3, –2) } What is the range of this function?

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3. What makes a relation a function? How can you check a graph to determine if it is a function?

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4. A set of ordered pairs is shown. $(-3, 7), (4, -8), (-2, 0), (8, -9)$
Write an ordered pair that can be added to the set so that the set still represents a function.

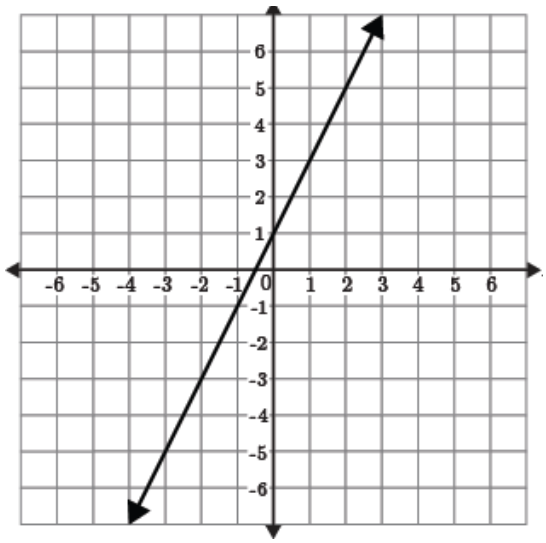
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5. Look at the graph showing the relationship between x and y.

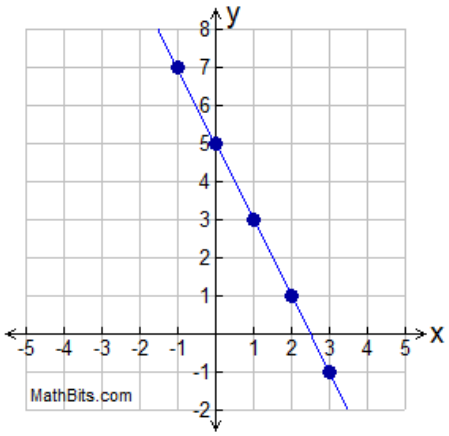
A function $y = mx + b$ models the relationship between x and y. Enter the values of m and b in the boxes.

$m =$ _____

$b =$ _____

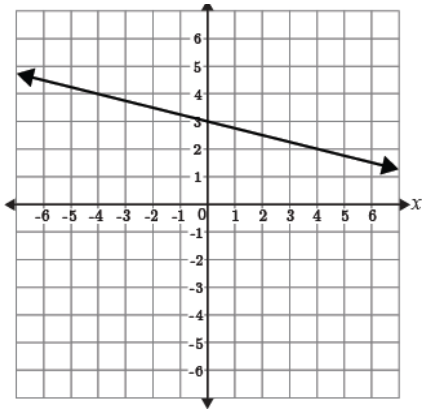


6. Write a function rule for the graph provided.



7. The formula $C = \pi r^2$ shows that the circumference, C, depends on the length of the radius of a circle, r. What is the independent variable in the formula?

8. What is the slope of the following graph?



9. Draw an example of the four types of slope. Precision is not required, just proper direction.

10. What properties were used in the following image?

$$\frac{4p}{4} < \frac{24}{4}$$

$$p < 6$$

11. Katie wants to collect over 100 seashells. She already has 34 seashells in her collection. Each day, she finds 12 more seashells on the beach. Katie can use fractions of days to find seashells. Write and solve an inequality to determine the number of days, d, it will take Katie to collect over 100 seashells.

12. List three solutions to the following inequality. $2(3x - 5) \leq x + 10$

13. An equation is shown. Solve the equation for a. $4(2a + 3) = -3(a - 1) + 3$

14. When the plumber comes to my house to fix the leaky faucet, he charges a flat rate of $50 in addition to charging $22 per hour. If the final bill was $116, how long was the plumber at my house?

15. Look at the equation. $\frac{9(t+3)}{2} = 3 + 6t$

What is the value of t in the equation?

16. What is the value of $\frac{a}{2b} + c$ where $a = 10$, $b = 1$, and $c = 4$?

17. Simplify the expression: $9y + 6 - 7y - 3$

18. Simplify the expression: $-2(x - 5) - \frac{1}{3}(9x - 12)$

19. List the numbers from least to greatest. $\{-4,\ \frac{4}{3},\ 25\frac{1}{2}\%,\ \sqrt{15},\ -\frac{3}{7},\ \pi\}$

20. Shannon had 765 cards in her baseball collection. She sold 153 of the cards to purchase a new iPod. What is the percent of change in the number of Shannon's baseball card collection?

21. At a coffeeshop, the price of a cup of coffee increased from $1.20 to $1.44. What is the percent increase in the cost of the coffee?

22. The side length of a square is 8 cm. What is the area? What is the perimeter?

23. Between which two whole numbers does the value of $\sqrt{128}$ lie?

24. Select the numbers that are irrational.

□ 4.343344333444 ...

□ $8\frac{2}{3}$

□ $\frac{22}{7}$

□ -7.5

□ $-\sqrt{51}$

25. Directions: Select the best answer.

Look at the sets of numbers in the table.

Set 1	$\{7.2,\ 6,\ 8.14,\ -5.6,\ \frac{1}{4}\}$
Set 2	$\{0,\ 1,\ 2,\ 3,\ 4,\ 5,\ 6,\ 7,\ 8,\ 9,\ 10\}$
Set 3	$\{-8, -6,\ 2,\ -10,\ 5,\ 0,\ 7,\ -12\}$
Set 4	$\{-2.8485\ldots,\ \pi,\ \sqrt{30},\ 8.14293\ldots\}$

Set 3 can best be described as -

A. Natural Numbers

B. Whole Numbers

C. Integers

D. Irrational Numbers