

Upcoming 10th Graders Summer Homework for the 2018-2019 School Year

Name: _____

Date: _____

1. If $(k, 3)$ is a point on the graph of the equation $x + 2y = 8$, what is the value of k ?

2. Line segment AB has a slope of $\frac{3}{4}$. If the coordinates of point A are $(2, 5)$, the coordinates of point B could be

- A. $(6, 8)$ B. $(5, 9)$
 C. $(-1, 1)$ D. $(6, 2)$

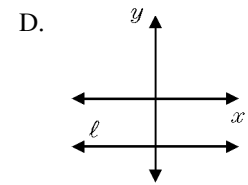
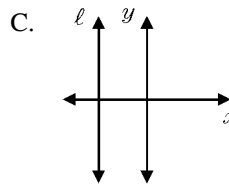
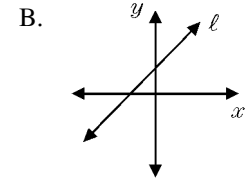
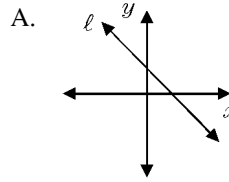
3. When drawn on the same set of axes, the graph of the equations $y = x + 1$ and $y + x = 3$ intersect at the point whose coordinates are

- A. $(2, 1)$ B. $(1, 2)$
 C. $(2, 3)$ D. $(-1, 4)$

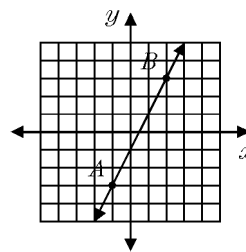
4. If the points $(3, 5)$, $(4, 2)$, and $(5, k)$ lie on a straight line, the value of k is

- A. 1 B. 2 C. -1 D. -2

5. In which graph does the slope of line ℓ equal zero?



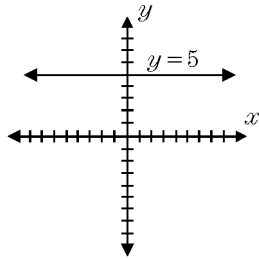
6. In the diagram shown, what is the slope of \vec{AB} ?



7. The diagram here shows the graph of the equation $y = 5$.

What is the slope of the line $y = 5$?

- A. 0
- B. 5
- C. -5
- D. undefined



8. A line having a slope of $\frac{3}{4}$ passes through the point $(-8, 4)$. Write the equation of this line in slope-intercept form.

9. Which phrase describes the graph of $y = -1$ on the coordinate plane?
- A. a line parallel to the y -axis and 1 unit to the right of it
 - B. a line parallel to the y -axis and 1 unit to the left of it
 - C. a line parallel to the x -axis and 1 unit below it
 - D. a line parallel to the x -axis and 1 unit above it

10. The graph of the equation $y = 3$ is a line

- A. parallel to the x -axis
- B. parallel to the y -axis
- C. passing through the origin
- D. passing through the point $(3, 0)$

11. The graph of which equation does *not* pass through the origin?

- A. $y = x$
- B. $y = -x$
- C. $y = 0$
- D. $y = 1$

12. The line $3x - 2y = 12$ has

- A. a slope of $\frac{3}{2}$ and a y -intercept of -6
- B. a slope of $-\frac{3}{2}$ and a y -intercept of 6
- C. a slope of 3 and a y -intercept of -2
- D. a slope of -3 and a y -intercept of -6

13. What is the slope of a line perpendicular to the graph of the equation $5x - 3y = 2$?

- A. $-\frac{3}{5}$
- B. $-\frac{1}{5}$
- C. $\frac{5}{3}$
- D. 5

14. Which is an equation of a line parallel to the line whose equation is $3y = 2x + 3$?
- A. $3y = -2x + 1$ B. $y = \frac{2}{3}x + 3$
C. $y = \frac{3}{2}x - 3$ D. $2y = 3x + 3$
15. The graph of the equation $x - 3y = 6$ is parallel to the graph of
- A. $y = -3x + 7$ B. $y = -\frac{1}{3}x + 5$
C. $y = 3x - 8$ D. $y = \frac{1}{3}x + 8$
16. The graph of the equation $2y = 3x + 6$ is perpendicular to the graph of the line represented by the equation
- A. $y = -\frac{2}{3}x - 2$ B. $y = x - 2$
C. $y = x - 2$ D. $y = -x - 2$
17. Which equation represents a line perpendicular to the line whose equation is $2x + 3y = 12$?
- A. $6y = -4x + 12$ B. $2y = 3x + 6$
C. $2y = -3x + 6$ D. $3y = -2x + 12$
18. At a school costume party, seven girls wore masks and nine boys did not. If there were 15 boys at the party and 20 students did not wear masks, what was the total number of students at the party?
- A. 30 B. 33 C. 35 D. 42
19. Seth is thinking of a number between 20 and 30. The number is prime and not more than 2 away from a perfect square. What is the number?
20. Seth has one less than twice the number of compact discs (CDs) that Jason has. Raoul has 53 more CDs than Jason has. If Seth gives Jason 25 CDs, Seth and Jason will have the same number of CDs. How many CDs did *each* of the three boys have to begin with?
21. Tom scored 23 points in a basketball game. He attempted 15 field goals and 6 free throws. If each successful field goal is 2 points and each successful free throw is 1 point, is it possible he successfully made all 6 of his free throws? Justify your answer.
22. Michael is 25 years younger than his father. The sum of their ages is 53. What is Michael's age?
- A. 14 B. 25 C. 28 D. 39

23. Vincent has cut three pieces of rope to complete a science project. Two pieces are of equal length. The third piece is one-quarter the length of each of the others. He cut the three pieces from a rope 54 meters long without any rope left over. Find the number of meters in each piece. [*Show or explain the procedure used to obtain your answer.*]

24. A total of \$450 is divided into equal shares. If Kate receives four shares, Kevin receives three shares, and Anna receives the remaining two shares, how much money did Kevin receive?

- A. \$100 B. \$150 C. \$200 D. \$250

25. After an ice storm, the following headlines were reported in the *Glacier County Times*:

Monday: Ice Storm Devastates County—8 out of every 10 homes lose electrical power

Tuesday: Restoration Begins—Power restored to $\frac{1}{2}$ of affected homes

Wednesday: More Freezing Rain—Power lost by 20% of homes that had power on Tuesday

Based on these headlines, what fractional portion of homes in Glacier County had electrical power on Wednesday?