

Keystone Review – Graphing I: Points & Lines

Name: _____

Date: _____

1. Which point satisfies the equation $2x + 3y = 8$?
A. (1, 4) B. (2, 2)
C. (-1, 3) D. (-2, 4)

2. Which point lies on the graph of the equation $3x + y = 9$?
A. (-1, 9) B. (9, 0)
C. (1, 1) D. (0, 9)

3. The equation of a line is $y = mx - 1$. Find the value of m if the line passes through the point (2, 3).

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

5. If $(a, 3)$ is a point on the graph of the equation $2x + 3y = 5$, then the value of a is
A. 1 B. 2 C. -2 D. 7

6. What is the y -intercept of the graph of the equation $y = \frac{1}{4}x - \frac{2}{3}$?
A. $-\frac{2}{3}$ B. $\frac{2}{3}$ C. $-\frac{1}{4}$ D. $\frac{1}{4}$

7. What are the coordinates of the point where the graph of the equation $x + 2y = 8$ crosses the y -axis?
A. (0, 8) B. (8, 0) C. (0, 4) D. (4, 0)

8. The graph of the equation $x + 3y = 6$ intersects the y -axis at the point whose coordinates are
A. (0, 2) B. (0, 6) C. (0, 18) D. (6, 0)

9. The graphs of the equations $4x - y = 6$ and $x + y = 4$ intersect at the point whose coordinates are
A. (2, -2) B. (5, -1)
C. (1, 3) D. (2, 2)

10. At which point will the graphs of the equations $2x + y = 8$ and $x - y = 4$ intersect?
A. (0, 4) B. (4, 0)
C. (-4, 0) D. (5, -2)

11. What is the slope of the line that passes through the points (4, 5) and (7, 3)?

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12. The slope of the line determined by the points $(-3, 2)$ and $(2, -3)$ is

- A. 1 B. -1
 C. zero D. undefined

13. What is the slope of the line whose equation is $5y = 2x + 10$?

- A. $\frac{5}{2}$ B. 2 C. $\frac{2}{5}$ D. 5

14. Which equation represents a line with a slope of -2 ?

- A. $y = 2x - 1$ B. $y = -2x + 1$
 C. $y = x - 2$ D. $y = -x + 2$

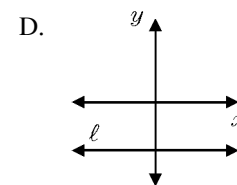
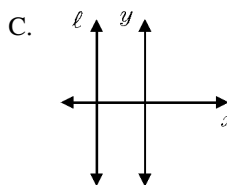
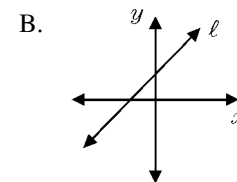
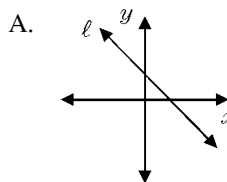
15. The slope of the graph of the equation $x = 3$ is

- A. 1 B. 0
 C. 3 D. undefined

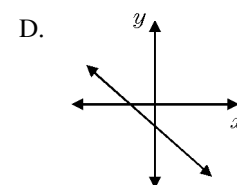
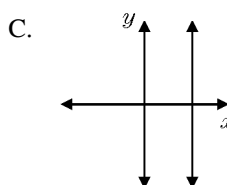
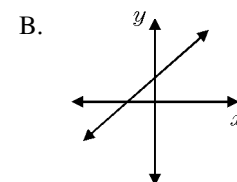
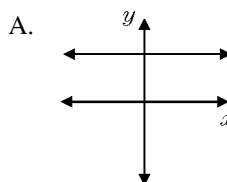
16. Two points whose coordinates are $(4, 17)$ and $(2, a)$ determine a line whose slope is 6. Find the value of a .

17. The line that passes through point $(-1, 4)$ and point $(6, y)$ has a slope of $\frac{5}{7}$. Find y .

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



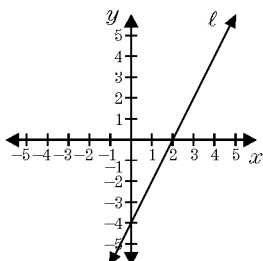
19. Which graph represents a line that has a negative slope?



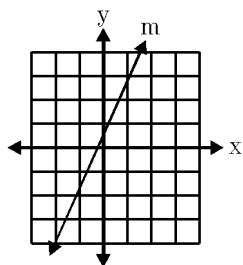
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20. Which is an equation for line ℓ in the accompanying diagram?

- A. $y = 2x + 2$
- B. $y = 2x - 4$
- C. $y = -2x - 4$
- D. $y = -2x + 2$



21. The diagram shows the graph of the line m



Which equation represents this line?

- A. $y = 2x + 1$
- B. $y = \frac{1}{2}x + 2$
- C. $y = -2x + 1$
- D. $y = -\frac{1}{2}x + 2$

22. Which is an equation of the line that passes through the point $(5, -2)$ and has a slope of -3 ?

- A. $y = -3x - 13$
- B. $y = 3x - 13$
- C. $y = -3x + 13$
- D. $y = 3x + 13$

23. The graph of which equation passes through points $(0, 6)$ and $(4, -1)$?

- A. $y = \frac{7}{4}x + 6$
- B. $y = \frac{4}{7}x + 6$
- C. $y = -\frac{7}{4}x + 6$
- D. $y = -\frac{4}{7}x + 6$

24. 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

25. Which equation is equivalent to $x + 2y = 6$?

- A. $y = -x + 6$
- B. $y = -\frac{1}{2}x - 6$
- C. $y = -x + 3$
- D. $y = -\frac{1}{2}x + 3$

26. A line is represented by the equation $y = 3x - 7$. Which statement about the line is true?

- A. The slope of the line is $\frac{1}{3}$.
- B. The y -intercept is -7 .
- C. Point $(1, 4)$ lies on the line.
- D. This line is parallel to the line whose equation is $y = 2x - 7$.

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27. The graph of which equation does *not* pass through the origin?
- A. $y = x$ B. $y = -x$
 C. $y = 0$ D. $y = 1$
28. Which statement is *false* about the line whose equation is $y = -2x - 5$?
- A. Its slope is -2 .
 B. It is parallel to the line whose equation is $y = 2x + 5$.
 C. Its y-intercept is -5 .
 D. It is perpendicular to the line whose equation is $y = \frac{1}{2}x - 5$.
29. 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
30. What is the slope of a line parallel to the line whose equation is $y = \frac{2}{5}x - 3$?
31. Which equation represents a line parallel to the line whose equation is $y = 2x - 7$?
- A. $y = 2x$ B. $y = \frac{1}{2}x - 7$
 C. $y = -7$ D. $y = -\frac{1}{2}x + 7$
32. Which is an equation of a line perpendicular to the line whose equation is $y = \frac{1}{3}x - 5$?
- A. $y = \frac{1}{3}x + 5$ B. $y = -\frac{1}{3}x - 5$
 C. $y = -3x - 5$ D. $y = 3x + 5$
33. Write an equation of the line that passes through the point $(1, 6)$ and is parallel to the line whose equation is $y = 3x - 5$.
34. Which is an equation of the line that has a y-intercept of -2 and is parallel to the line whose equation is $4y = 3x + 7$?
- A. $y = \frac{3}{4}x - 2$ B. $y = \frac{3}{4}x + 2$
 C. $y = \frac{4}{3}x - 2$ D. $y = -\frac{4}{3}x - 2$
35. The slope of \overrightarrow{AB} is $\frac{2}{3}$ and the slope of \overrightarrow{CD} is $\frac{x-2}{6}$. If $\overrightarrow{AB} \parallel \overrightarrow{CD}$, find the value of x .
36. Two lines are represented by the equations $-\frac{1}{2}y = 6x + 10$ and $y = mx$. For which value of m will the lines be parallel?
- A. -12 B. -3 C. 3 D. 12

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1.
Answer: D
2.
Answer: D
3.
Answer: 2
4.
Answer: 2
5.
Answer: C
6.
Answer: A
7.
Answer: C
8.
Answer: A
9.
Answer: D
10.
Answer: B
11.
Answer: $-\frac{2}{3}$
12.
Answer: B
13.
Answer: C
14.
Answer: B
15.
Answer: D
16.
Answer: 5
17.
Answer: 9
18.
Answer: D
19.
Answer: D

20.
Answer: B
21.
Answer: A
22.
Answer: C
23.
Answer: C
24.
Answer: C
25.
Answer: D
26.
Answer: B
27.
Answer: D
28.
Answer: B
29.
Answer: A
30.
Answer: $\frac{2}{5}$
31.
Answer: A
32.
Answer: C
33.
Answer: $y = 3x + 3$
34.
Answer: A
35.
Answer: 6
36.
Answer: A