Algebra Review Name:_____

1. What is the y-intercept of the line represented by the equation $2y = -\frac{2}{3}x - 4$?

2. What is the x-intercept of the line $3y + 5x = 2$?

3. What are the coordinates of the y-intercept of the line $2x - 3y = 12$?

4. What are the coordinates of the x-intercept of the line $3x + 4y = 12$?

5. Which of the following points lies on the line $4x + 5y = 20$?

A (0,5)

B (0,4)

C (4,5)

D (5,4)

6. Which of the following points lies on the line $y = -x$?

A (–4,–4)

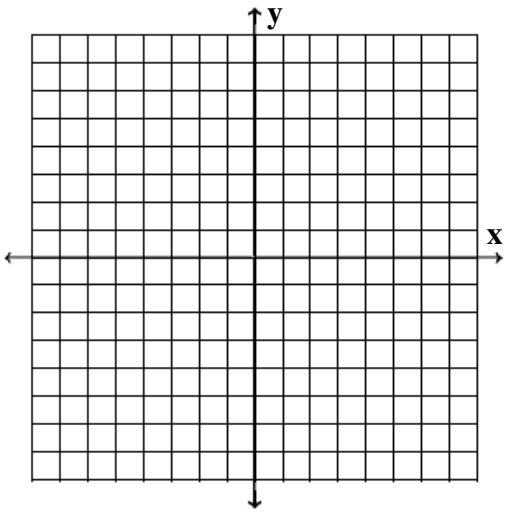
B (4,–2)

C (–4,4)

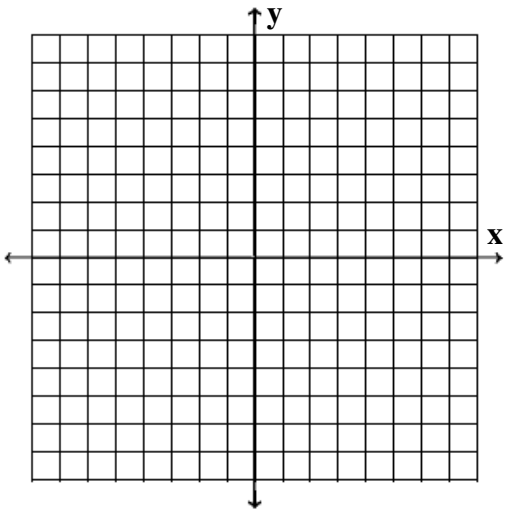
D (–4,0)

Graph the linear equation using the slope and y-intercept.

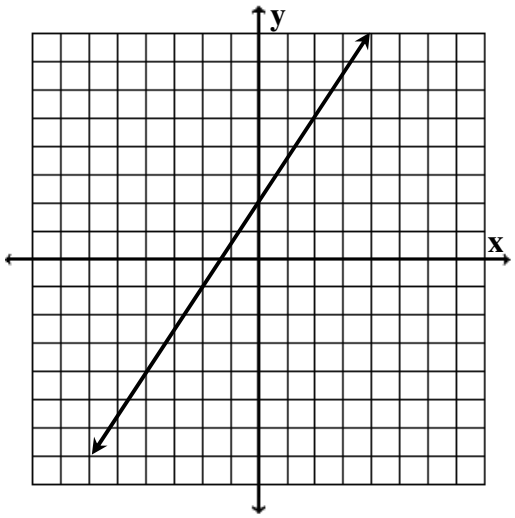
7. $y = -x - 3$



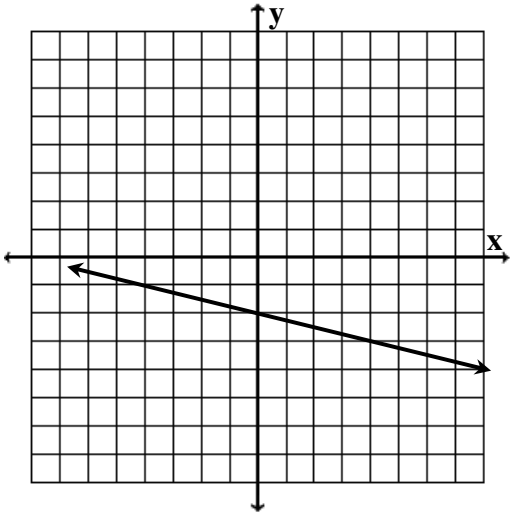
8. $3y - 4x = 3$



9. Determine the equation that represents the line on the graph below?



10. Identify the slope of the line.



Identify the slope.

11. $(1,3)$, $(-2,5)$

12. $(0,-1)$, $(-6,-4)$

13. $(2,-3)$, $(4,-7)$

14. Which of the following could be the equation of a line parallel to the line $y = -3x + 2$

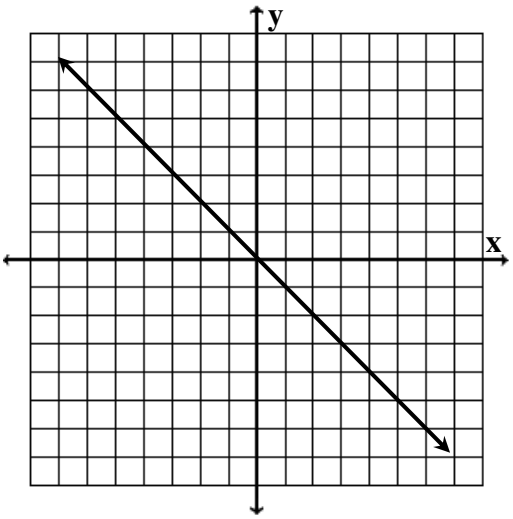
A $y = 3x + 2$

B $y = -3x + 1$

C $y = \frac{1}{3}x + 4$

D $y = -\frac{1}{3}x - 3$

15. What is the slope of a line parallel to the line below?



Find the slope and y-intercept of the linear equation.

16. $y = -\frac{3}{4}x - 2$

17. $y = -x$

18. $y = 5$

19. $2y + 4x = 6$

20. $2y = -5x$

21. $6y + 2x = -6$

Write an equation or inequality that represents the statement.

22. Eight less than a number is less than -3.

23. The product of a number and 7 is 3.

24. Divide a number by 5 and subtract 3 to the result. The answer is less than or equal to -7.

25. 4 less than 5 times a number is greater than 3.

Solve.

26. $1 - (3 - x) < 4(x + 1)$

27. $2 - (x - 3) = 2(4x - 1)$

28. $\frac{2}{3x - 1} = \frac{3}{x}$

29. $(3x^2 + 7x - 4) - (2x^2 + x + 2)$

30. $\frac{12x^3 + 9x^2 - 3x}{3x}$

Find the reciprocal.

31. $-\frac{7a}{bc^2}$

Evaluate.

32. $\frac{1}{x^5}$, for $x = -2$

33. If $a = -7$ and $b = -1$, then

$$b + \frac{a-b}{3} =$$

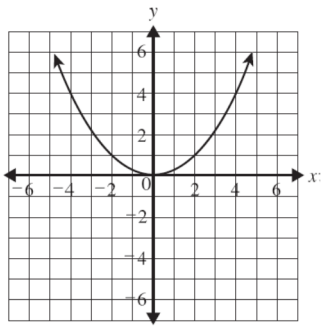
34. If $n = \frac{3}{4}$ and $x = 11$, then

$$n(3-x) =$$

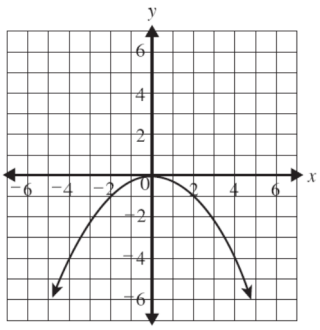
35. Simplify $(6-3^3) \div 3 + (9-4)$

36. Which of the following is the graph of $y = \frac{1}{4}x^2$?

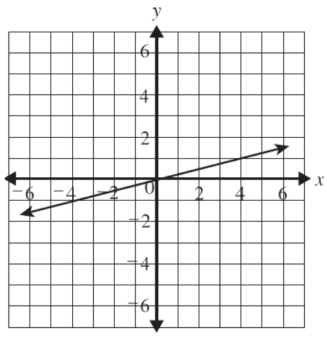
A



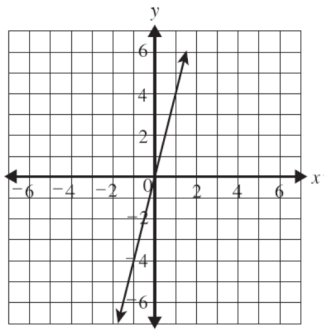
B



C

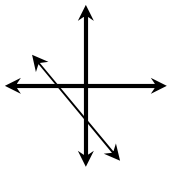


D

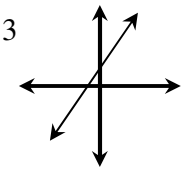


Answer Key:

1) $y = -2$ **2)** $x = \frac{2}{5}$ **3)** $(0,-4)$ **4)** $(4,0)$ **5)** B **6)** C **7)**



8) 3



9) $y = \frac{3}{2}x + 2$ **10)** $m = -\frac{1}{4}$ **11)** $m = -\frac{2}{3}$ **12)** $m = \frac{1}{2}$ **13)** $m = -2$ **14)** B **15)** -1

16) $m = -\frac{3}{4}, b = -2$ **17)** $m = -1, b = 0$ **18)** $m = 0, b = 5$ **19)** $m = -2, b = 3$ **20)** $y = -\frac{5}{2}, b = 0$

21) $m = -\frac{1}{3}, b = 1$ **22)** $x - 8 < -3$ **23)** $7x = 3$ **24)** $\frac{x}{5} - 3 \le -7$ **25)** $5x - 4 > 3$ **26)** $x > -2$

27) $x = \frac{7}{9}$ **28)** $x = \frac{3}{7}$ **29)** $x^2 + 6x - 6$ **30)** $4x^2 + 3x - 1$ **31)** $-\frac{bc^2}{7a}$ **32)** $-\frac{1}{32}$ **33)** -3 **34)** -6

35) -2 **36)** A