

Week 5 Practice

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Date _____ Period _____

Sketch the graph of each line.

1) x -intercept = -5 , y -intercept = -1

2) x -intercept = -2 , y -intercept = 2

3) $x - y = -5$

4) $2x + y = 3$

5) $y = \frac{7}{5}x - 4$

6) $y = \frac{1}{4}x - 3$

Sketch the graph of each linear inequality.

7) $y \geq -\frac{3}{4}x - 4$

8) $y \leq -\frac{1}{2}x + 3$

9) $2x + y \leq 1$

10) $x + 2y > 4$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

11) through: $(3, 3)$, slope = 0

12) through: $(4, -3)$, slope = $-\frac{1}{2}$

Find the slope, distance, and midpoint. Write the slope-intercept form of the equation of the line through the given points.

13) through: $(5, -2)$ and $(4, 2)$

14) through: $(2, -3)$ and $(5, -4)$

15) through: $(4, -2)$ and $(0, -1)$

16) through: $(4, -5)$ and $(-3, 0)$

17) through: $(-2, -3)$ and $(5, 5)$

18) through: $(-2, 4)$ and $(5, -4)$

Determine if the lines are parallel, perpendicular, or neither. Work must support answer.

19) $27 - 5y = -3x$
 $-24 - 9x = 4y$

20) $y = \frac{2}{9} + \frac{2}{9}x$
 $0 = -10 + 4x - 18y$

21) $9y = -4 - 5x$
 $-15x = 27 + 27y$

22) $y - \frac{7}{5} - \frac{3}{5}x = 0$
 $-28 - 2x = -15y$

23) $0 = -18y + 6 - 6x$
 $-3 + 9y = -3x$

24) $\frac{9}{2} - \frac{1}{2}x = -y$
 $2x = 4y + 18$

Write the slope-intercept form of the equation of the line described.

25) through: $(-2, 1)$, parallel to $y = -\frac{1}{2}x - 4$

26) through: $(5, -5)$, parallel to $y = -\frac{7}{5}x + 4$

27) through: $(5, 1)$, parallel to $y = -\frac{3}{5}x + 5$

28) through: $(2, 5)$, parallel to $y = \frac{3}{2}x - 5$

29) through: $(4, 4)$, perp. to $y = -4x + 5$

30) through: $(-2, -5)$, perp. to $y = -\frac{2}{9}x + 5$

31) through: $(2, -1)$, perp. to $y = \frac{2}{5}x + 5$

32) through: $(-4, -4)$, perp. to $y = -\frac{4}{7}x - 5$

33) Write the equation of the horizontal line through $(-2, 9)$.

34) Write the equation of the vertical line through $(-12, -4)$.

Evaluate each function.

35) $f(x) = 4^{x-2} - 2$; Find $f(0)$

36) $f(x) = 5^{3x-1} + 1$; Find $f(0)$

37) $f(t) = -t^2 - 2t$; Find $f(3)$

38) $w(x) = |x|$; Find $w(-10)$

39) $w(a) = a^3 - 5a^2$; Find $w(1)$

40) $w(n) = |n| - 2$; Find $w(3)$

41) $f(a) = |a - 2|$; Find $f(-8)$

42) $g(x) = x + 3$; Find $g(3)$

43) $g(n) = n^2 + 3$; Find $g(6)$

44) $f(x) = x^2 + 3 + 2x$; Find $f(-1)$

45) $f(n) = 2n + 3$; Find $f(1)$

46) $g(a) = -5^a - 3$; Find $g(-1)$

47) $g(n) = -3n + 3$; Find $g(-2 - n)$

48) $g(t) = 2t + 5$; Find $g(t^2)$

49) $k(n) = -2n^3 + 3$; Find $k(n + 3)$

50) $w(t) = 2t - 3$; Find $w\left(\frac{t}{3}\right)$

51) $g(x) = 2x - 4$; Find $g(-x)$

52) $p(x) = 4x + 1$; Find $p(-2x)$

Sketch the graph of each function.

53) $y = -3\sqrt{x-3}$

54) $y = -2\sqrt{x}$

55) $y = \sqrt{x+1}$

56) $y = 4\sqrt{x-2} - 4$

57) $y = \sqrt{x}$

58) $y = 4\sqrt{x-3}$

59) $y = \sqrt[3]{x}$

60) $y = \sqrt[3]{x-1}$

61) $y = \sqrt[3]{x-3}$

62) $y = \sqrt[3]{x+2}$

63) $f(x) = x^3 - x^2$

64) $f(x) = x^3 - x^2 + 3$

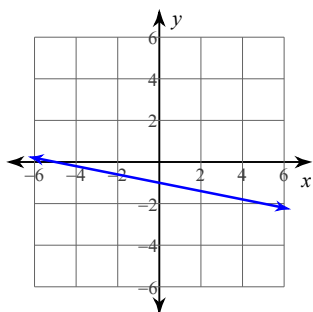
Graph each equation.

65) $y = |x| - 2$

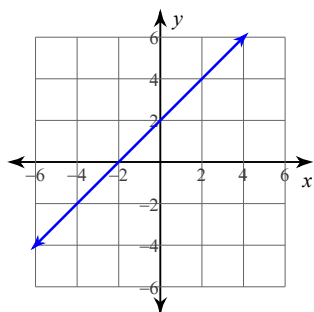
66) $y = |x| + 1$

Answers to Week 5 Practice (ID: 1)

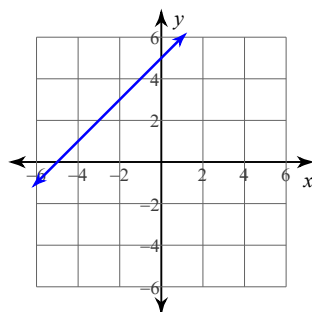
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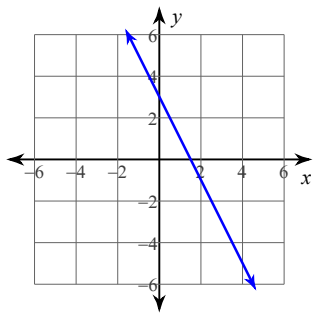
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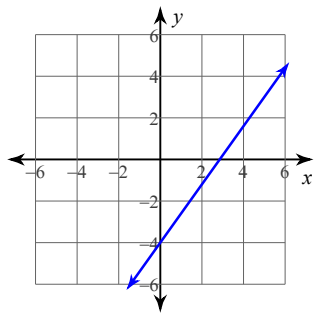
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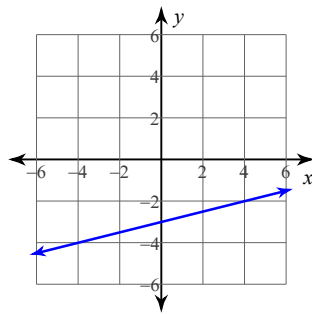
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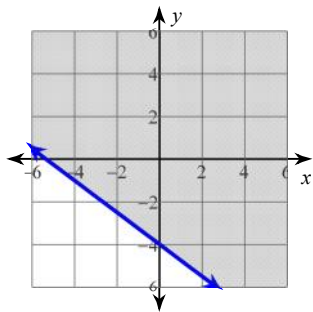
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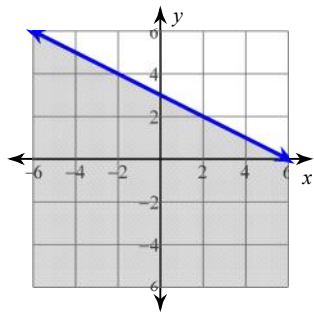
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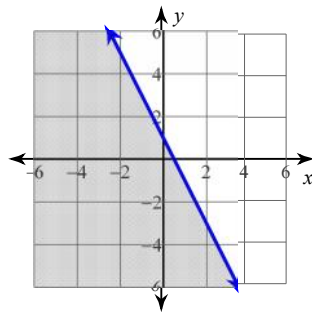
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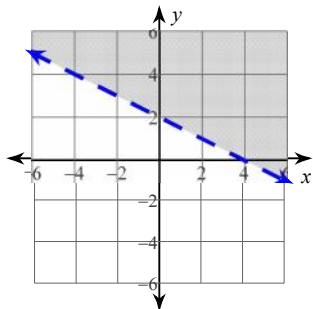
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9)



10)



11) $y = 3$

12) $y = -\frac{1}{2}x - 1$

13) $y = -4x + 18$

14) $y = -\frac{1}{3}x - \frac{7}{3}$

15) $y = -\frac{1}{4}x - 1$

16) $y = -\frac{5}{7}x - \frac{15}{7}$

17) $y = \frac{8}{7}x - \frac{5}{7}$

18) $y = -\frac{8}{7}x + \frac{12}{7}$

19) $(-4, 3)$

20) No solution

21) No solution

22) $(1, 2)$

23) Infinite number of solutions

24) Infinite number of solutions

25) $y = -\frac{1}{2}x$

26) $y = -\frac{7}{5}x + 2$

27) $y = -\frac{3}{5}x + 4$

28) $y = \frac{3}{2}x + 2$

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

30) $y = \frac{9}{2}x + 4$

31) $y = -\frac{5}{2}x + 4$

32) $y = \frac{7}{4}x + 3$

33) $y = 9$

34) $x = -12$

35) $-\frac{31}{16}$

36) $\frac{6}{5}$

37) -15

38) 10

39) -4

40) 1

41) 10

42) 6

43) 39

44) 2

45) 5

46) $-\frac{16}{5}$

47) $9 + 3n$

48) $2t^2 + 5$

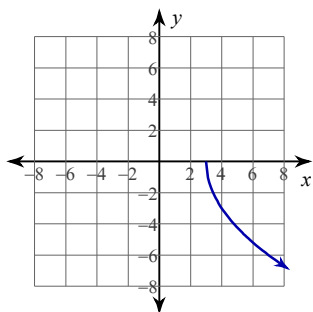
49) $-2n^3 - 18n^2 - 54n - 51$

50) $-3 + \frac{2}{3}t$

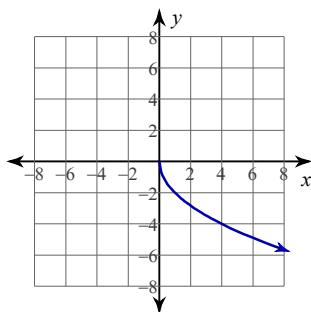
51) $-2x - 4$

52) $-8x + 1$

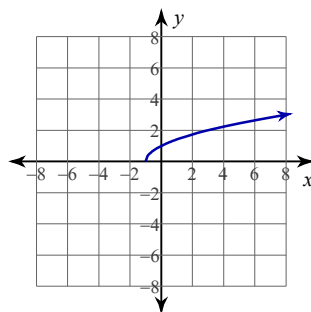
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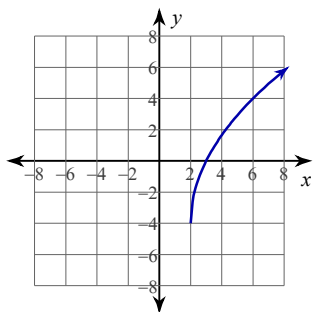
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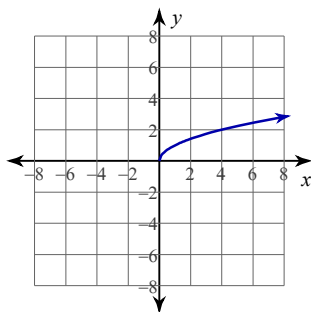
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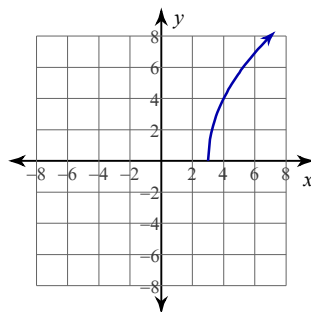
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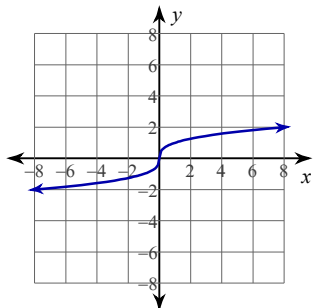
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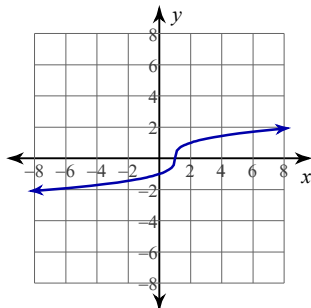
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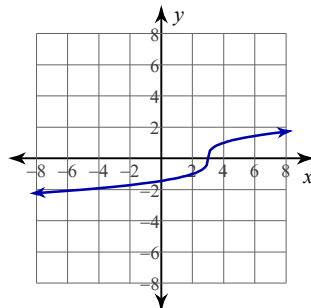
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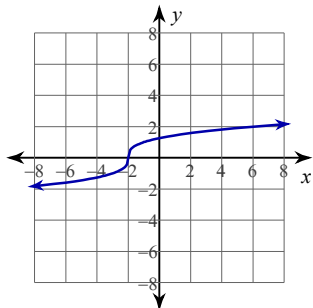
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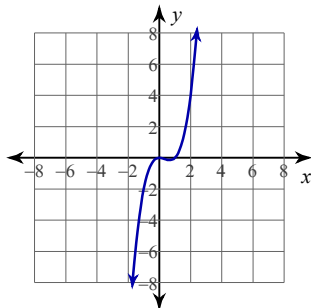
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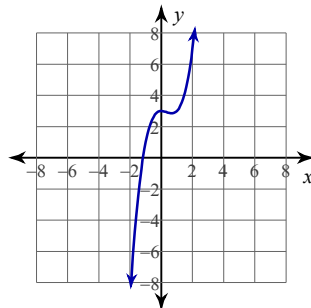
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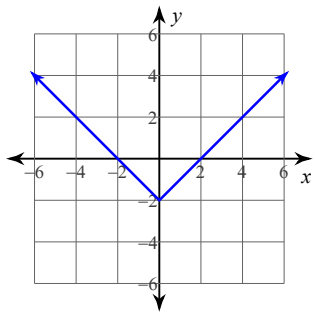
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