Name: _____ Date: _____

PC Linear Functions Ms. Loughran

Do Now: #s 1 and 2 and #s 1,3 and 5 from Writing Equations of Lines Homework

1. Write the slope-intercept form of the equation of the line passing through $(-2, -1)$, parallel to $y = -3x + 3$.

$y = mx + b$

$m = -3$

$m_{\parallel} = -3$

$y + 1 = -3(x + 2)$ ← point slope form

$y + 1 = -3x - 6$

$y = -3x - 7$ ← slope intercept form

2. Write the standard form of the equation of the line passing through $(-2, -4)$, perpendicular to $y = -\frac{2}{9}x + 4$.

$Ax + By = C$
A, B, C are not fractions

$m = -\frac{2}{9}$

$m_{\perp} = +\frac{9}{2}$

$y + 4 = \frac{9}{2}(x + 2)$ ← point slope

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

$y = \frac{9}{2}x + 5$

$2\left(-\frac{9}{2}x + y = 5\right)$

$-9x + 2y = 10$ ← standard form

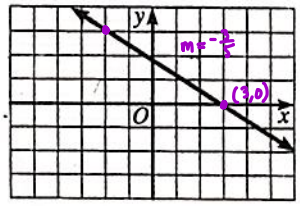
Name: _____ Date: _____

PC: Homework Writing Equations of Lines Ms. Loughran

Write the equation of the line from graph and also write domain and range. Find x and y-intercepts. Determine whether or not each is a function.

Homework 10-20

1.



Function

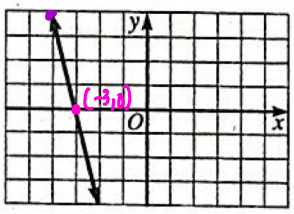
$y - 0 = -\frac{3}{5}(x-3)$ D: $(-\infty, \infty)$

$y = -\frac{3}{5}x + \frac{9}{5}$ R: $(-\infty, \infty)$

x-int: $(3,0)$

y-int: $(0, \frac{9}{5})$

2.



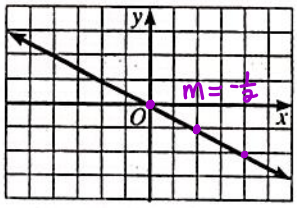
$m = -4$

Function

$y - 0 = -4(x+3)$ D: $(-\infty, \infty)$ x-int: $(-3,0)$

$y = -4x - 12$ R: $(-\infty, \infty)$ y-int: $(0, -12)$

3.



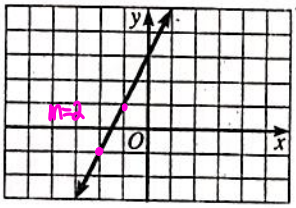
Function

$y = -\frac{1}{2}x + 0$ or $-\frac{1}{2}x$

D: $(-\infty, \infty)$ x-int: $(0,0)$

R: $(-\infty, \infty)$ y-int: $(0,0)$

4.



$y = 2x + 3$

D: $(-\infty, \infty)$

R: $(-\infty, \infty)$

Function

y-int: $(0,3)$

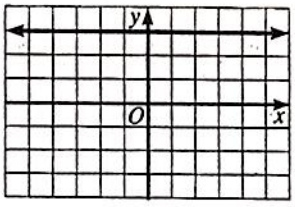
x-int: (let $y=0$)

$0 = 2x + 3$

$-3 = 2x$

$\frac{-3}{2} = x$ $(-\frac{3}{2}, 0)$

5.



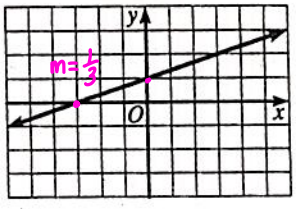
Function

$y = 3$

D: $(-\infty, \infty)$ x-int: none

R: $\{3\}$ y-int: $(0,3)$

6.



$y = \frac{1}{3}x + 1$ Function

D: $(-\infty, \infty)$ x-int: $(-3,0)$

R: $(-\infty, \infty)$ y-int: $(0,1)$

Answers to Review of Linear Functions (Lines) (ID: 1)

1) $\frac{9}{4}$

2) $-\frac{7}{6}$

3) $\frac{3}{4}$

4) $-\frac{1}{4}$

5) $-\frac{5}{4}$

6) $-\frac{1}{2}$

7) $-\frac{3}{4}$

8) $-\frac{5}{3}$

9) $-\frac{13}{28}$

10) $\frac{9}{7}$

11) $\frac{1}{37}$

12) $-\frac{11}{12}$

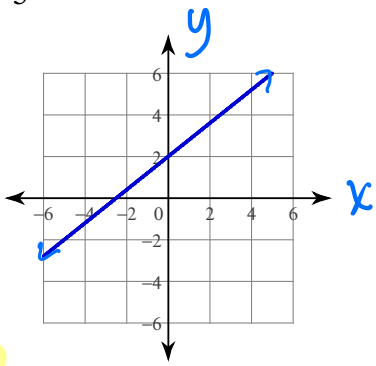
13) $\frac{2}{3}$

14) $\frac{9}{5}$

15) 2

16) 1

17)



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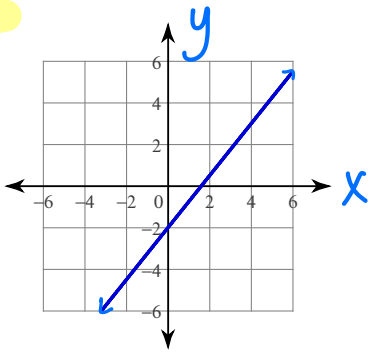

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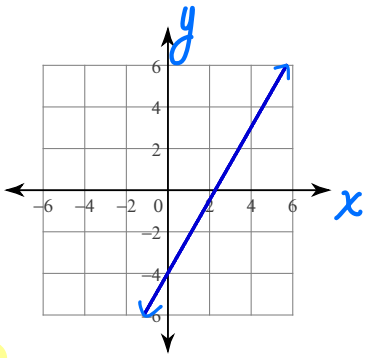

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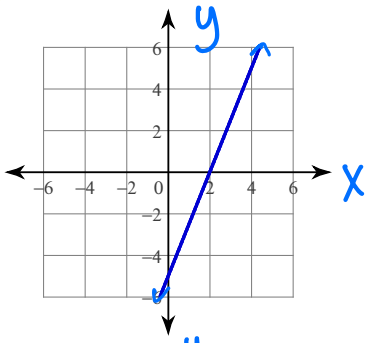

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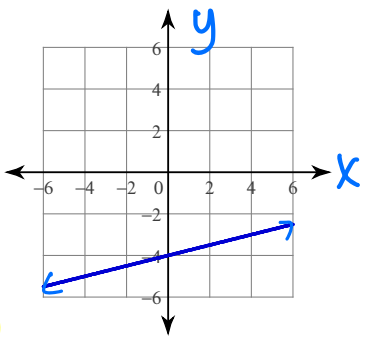

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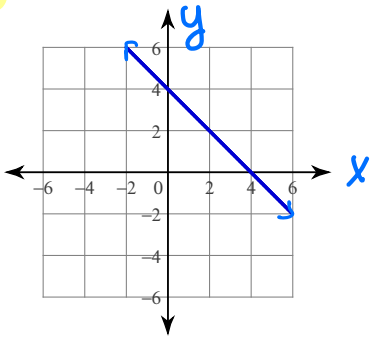

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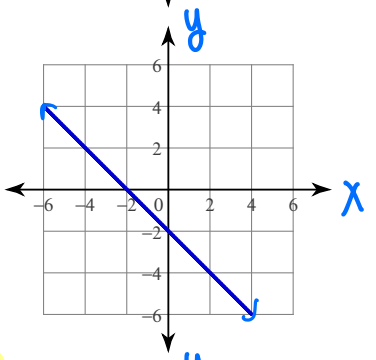

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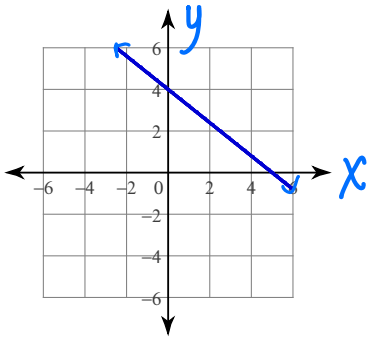

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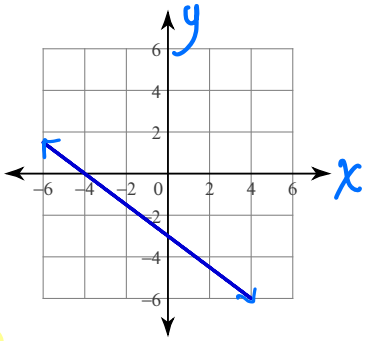

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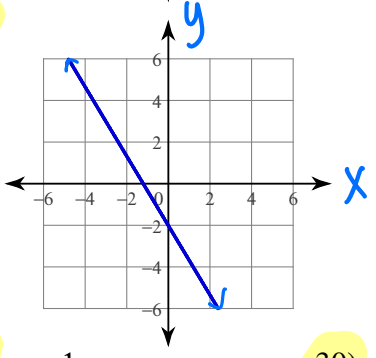

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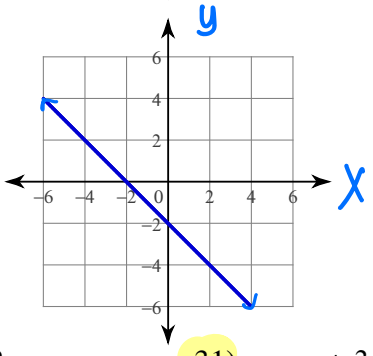

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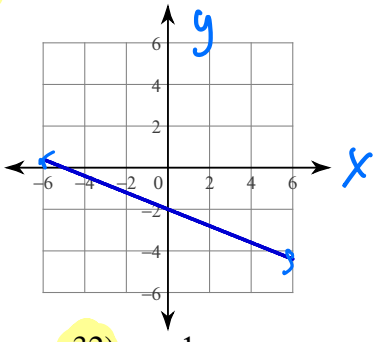

29) $y = 1$

30) $y = x + 2$

31) $y = x + 3$

32) $x = 1$

33) $y = \frac{1}{2}x - \frac{7}{2}$

34) $y = -\frac{7}{2}x - 14$

35) $y = -\frac{2}{3}x - 2$

36) $y = -\frac{2}{3}x - \frac{7}{3}$

37) $y = -4x + 5$

38) $y = \frac{4}{3}x - 2$

39) $y = -10x - 5$

40) $y = -\frac{9}{5}x - 4$

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

42) $y = 7x + 5$

43) $4x + y = 3$

44) $x - 2y = 2$

45) $9x + 2y = 8$

46) $x - 5y = 20$

47) $5x - 4y = -4$

48) $5x + y = 3$

49) $y = x + 2$

50) $y = 2x + 1$

51) $y = -\frac{3}{5}x - \frac{2}{5}$

52) $y = -x + 6$

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

54) $y = \frac{3}{2}x - 3$

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

56) $y = x$

$y - 5 = 1(x - 5)$ or $y + 1 = 1(x + 1)$

57) $y = x - 1$

$y - 1 = 1(x - 2)$ or $y - 3 = 1(x - 4)$

58) $y = x + 2$

$y - 2 = 1(x - 0)$ or $y - 5 = 1(x - 3)$

59) $y = 5x - 5$

60) $y = -\frac{1}{2}x + 3$

61) $y = \frac{2}{5}x - 1$

62) $y = -\frac{3}{2}x + \frac{1}{2}$

63) $y = 2x + 1$

64) $y = -x + 4$

65) $y = -3x - 7$

66) $y = \frac{8}{3}x - \frac{7}{3}$

67) $y = \frac{9}{2}x + 5$

68) $y = \frac{1}{7}x - \frac{31}{7}$

69) $y = 2x$

70) $y = x + 1$

71) $y = \frac{1}{5}x + 4$

72) $y = x + 2$

73) $\{4\}$

74) $\{2\}$

75) $\{2\}$

76) $\{-7\}$

77) $\{-4\}$

78) $\{-2\}$

79) $\{0\}$

80) $\left\{-\frac{8}{3}\right\}$

81) $\left\{-\frac{1}{2}\right\}$

82) $\{1.3\}$

83) $\{-0.3\}$

84) $\{2.4\}$

85) $\{-2.79\}$

86) $y = \frac{1}{6}x + 5$

87) $y = 2x - 2$

88) $-\frac{4}{3}$

89) -3

90) $-\frac{2}{3}$

91) -2