

**Intermediate 2**

**End of Year Test Review Day 1**

Solve each equation.

1.  $-x = 11$

4.  $\frac{x+4}{7} = -2$

2.  $\frac{x}{-3} = 5$

5.  $\frac{x}{3} = \frac{7}{-2}$

3.  $12 = x + 9$

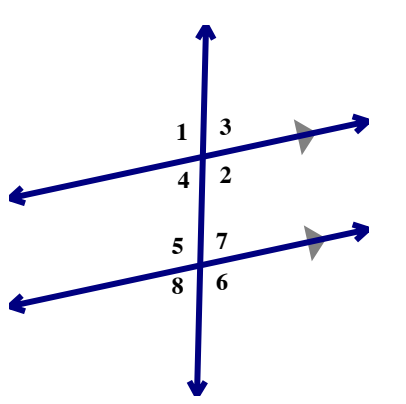
6.  $5 + 2x = 19$

Classify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, *vertical*, *supplementary*, or *neither*.

7.  $\angle 5$  &  $\angle 6$

8.  $\angle 3$  &  $\angle 8$

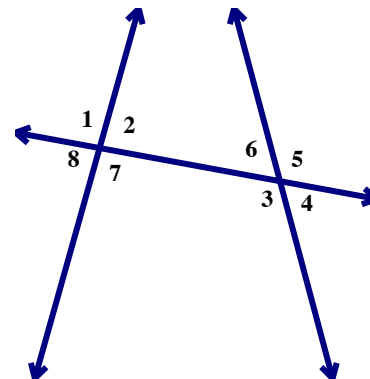
9.  $\angle 2$  &  $\angle 4$



10.  $\angle 8$  &  $\angle 3$

11.  $\angle 4$  &  $\angle 6$

12.  $\angle 6$  &  $\angle 3$



True/False

13. All lines through the origin have an undefined slope.

True or False

14. A line that rises from left to right has a negative slope.

True or False

15. The slope of a horizontal line is 0.

True or False

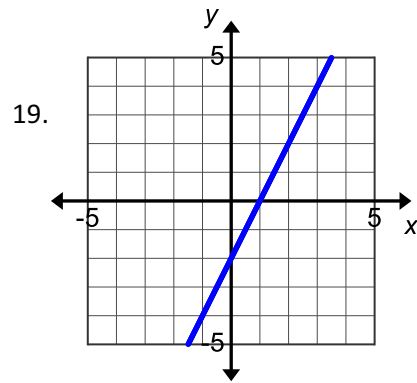
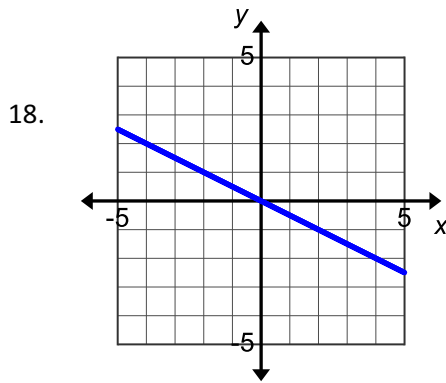
16. A line that falls from left to right has a negative slope.

True or False

17. Undefined and zero slope are the same.

True or False

Find the slope & y-intercept of the given graphs.



Find the slope for the given tables. If the slope is non-linear, write non-linear.

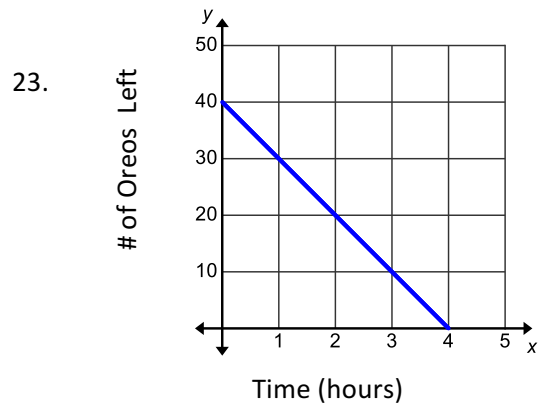
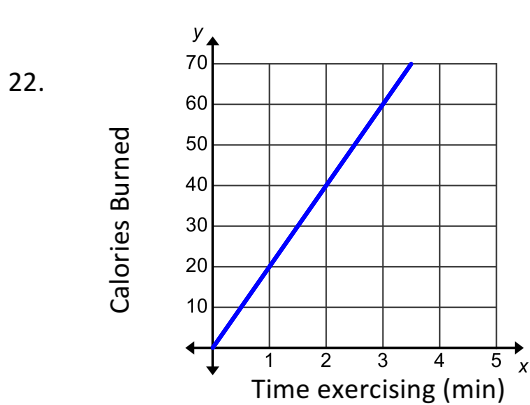
20.

x	y
-2	4
-1	2
1	-2
4	-8

21.

x	y
-6	18
-1	3
1	-3
4	-12

Find and explain the rate of change (with units).



24. A slide is attached at the top of a ladder which is 12 feet tall. It is 15 feet from the base of the ladder to the base of the slide. What is the slope of the slide?

25. A telephone wire runs from the top of a pole which is 20 feet high to the base of the roof which is 8 feet off the ground. It is 84 feet from the pole to the house. What is the slope of the wire?

Are the following equations/tables/graphs linear or non-linear?

26.  $y = x^2 + 5x$

27.  $y = \frac{x}{4} + 1$

28.  $y = |2x - 6| + 4$

29.

X	Y
-2	0
-1	1
0	3
1	6

30.

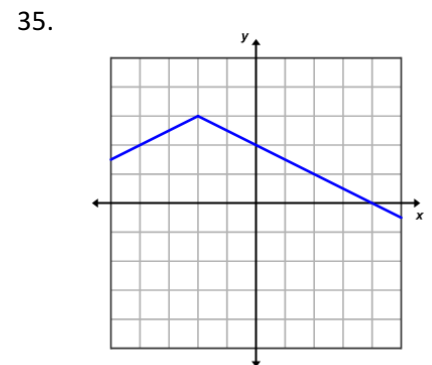
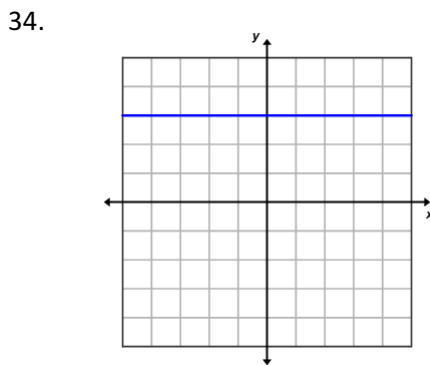
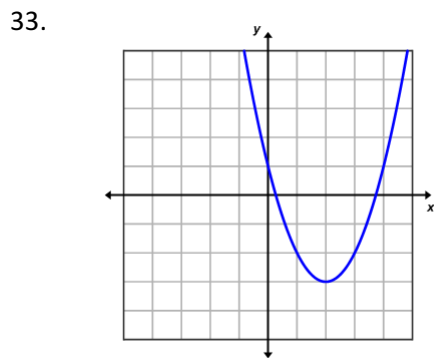
X	Y
25	5
16	4
9	3
4	2

31.

X	Y
1	1
2	8
3	27
4	64

32.

X	Y
3	15
0	0
-1	-2
-2	-10



Fill in the blank from the word bank.

36. In the equation  $y = mx + b$ ,  $b$  stands for \_\_\_\_\_.

37. In the equation  $y = mx + b$ ,  $m$  stands for \_\_\_\_\_.

38. The graph of the line  $x = 2$  is \_\_\_\_\_.

39. The graph of the line  $y = 5$  is \_\_\_\_\_.

40. The graph of the line  $y = -x$  is \_\_\_\_\_.

Diagonal/Slanted

Slope

Vertical

x-intercept

Horizontal

y-intercept

Solve for  $y$ .

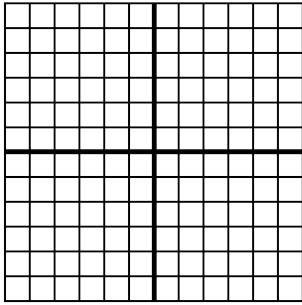
41.  $3x - 5y = 15$

42.  $4x + 9y = 12$

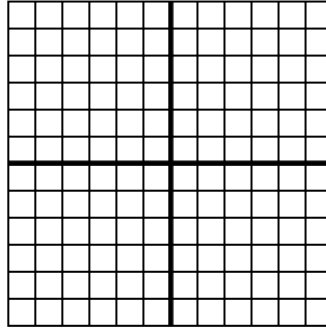
43.  $7x - 14y = 7$

Graph using any method.

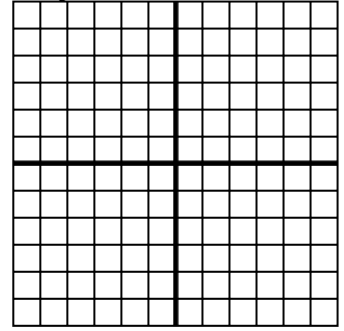
44.  $y = -4x + 2$



45.  $x = 1$

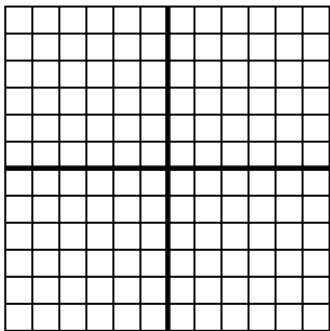


46.  $y = -3$



Is the point on the line?

47.  $3x + 2y = -8$

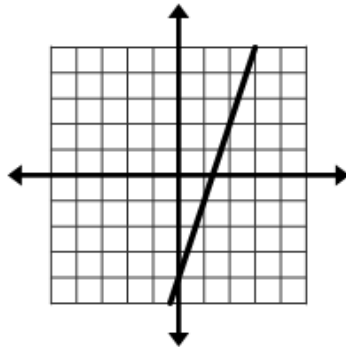


48.  $(-9, 2)$  and  $y = -x + 11$

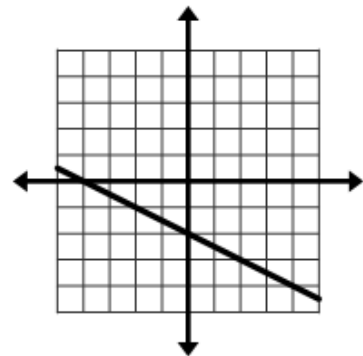
49.  $(5, -3)$  and  $y = \frac{3}{5}x - 6$

Write the equation of the line for the given graph.

50.



51.



Write the equation of the line.

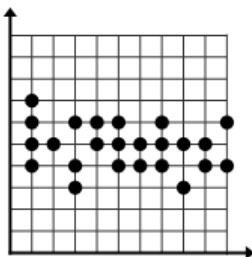
52. slope =  $-\frac{1}{3}$  and  $(-6, -5)$

53.  $(-2, -5)$  and  $(-6, -3)$

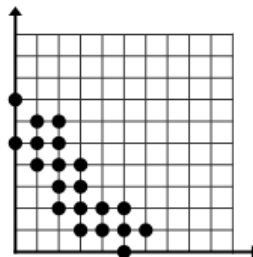
54.  $(5, -1)$  and  $(4, -3)$

Determine the correlation of each scatter plot.

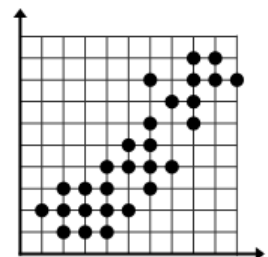
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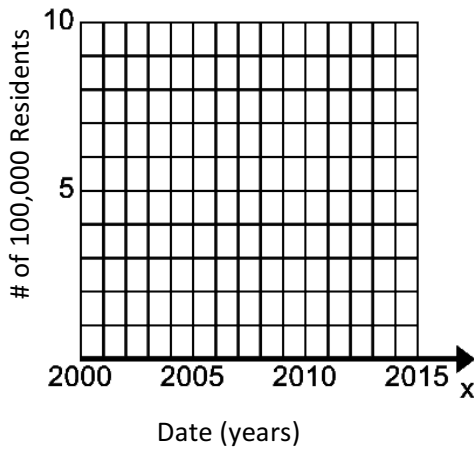
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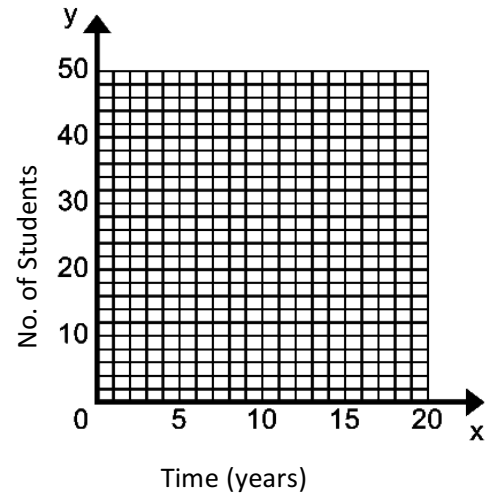
57.



58. A researcher reports that the number of people in Delaware has declined over time. Create 10 points on the graph to represent this claim.



59. A reporter suggests the number of students that eat lunch in a local elementary school is on the rise. Create 10 points on the graph to represent this claim.



60.  $\frac{1.25 \times 10^{-6}}{6.25 \times 10^5}$

61.  $(2.3 \times 10^{-5})(6.1 \times 10^5)$

62.  $(5.4 \times 10^{-3})(6.8 \times 10^{-4})$

63.  $(3.602 \times 10^8) - (5.04 \times 10^6)$

64.  $(7.08 \times 10^6) + (1.04 \times 10^8)$

65. The population of Washington is  $6.9 \times 10^6$  people, Oregon is  $3.9 \times 10^6$  people, and Idaho is  $1.6 \times 10^6$  people. These three states make up the Pacific Northwest. What is the total population of the Pacific Northwest?

66. Order this set of numbers from least to greatest.

$7.3, \sqrt{36}, \sqrt{40}, 6.9, \sqrt{49}$

Place each of the points on the number line given.

67.  $A = 3.2$

$B = \sqrt{15}$

$C = \sqrt{8}$

$D = 4.1$

$E = \sqrt{20}$

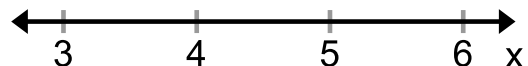
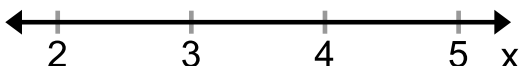
68.  $F = \sqrt{30}$

$G = \sqrt{16}$

$H = 4.7$

$I = \sqrt{35}$

$J = \sqrt{26}$



Simplify the following radical expressions

69.  $5\sqrt{72}$

70.  $5\sqrt{12}$

71.  $\sqrt{6} \cdot \sqrt{8}$

72.  $8\sqrt{15} + 3\sqrt{20} - 3\sqrt{15} - \sqrt{20}$

73.  $3\sqrt{10} \cdot 2\sqrt{15}$

74.  $\frac{\sqrt{56}}{\sqrt{7}}$

75.  $2\sqrt{45} + 4\sqrt{20}$

76.  $\frac{20\sqrt{27}}{10\sqrt{3}}$

77.  $\sqrt{512}$

78.  $\sqrt[3]{512}$

79.  $\sqrt[3]{729}$

80.  $\sqrt{x} = 16$