Name Key Period Date

Intermediate 2 **End of Year Test Review Day 1**

Solve each equation.

1. $-x = 11$

$X = -11$

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

$X = -15$

3. $12 = x + 9$

$X = 3$

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

$X = -18$

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

$X = -\frac{21}{2}$

6. $5 + 2x = 19$

$X = 7$

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

7. ∠5 & ∠6

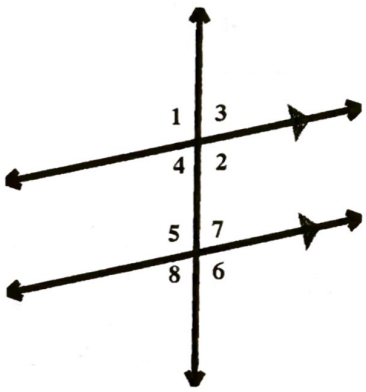
Vertical

8. ∠3 & ∠8

Alt. Ext.

9. ∠2 & ∠4

Supp.



10. ∠8 & ∠3

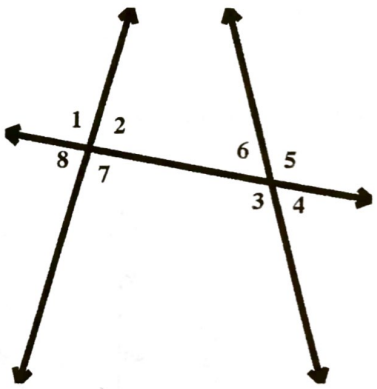
Corres.

11. ∠4 & ∠6

Vertical

12. ∠6 & ∠3

Supp.



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)

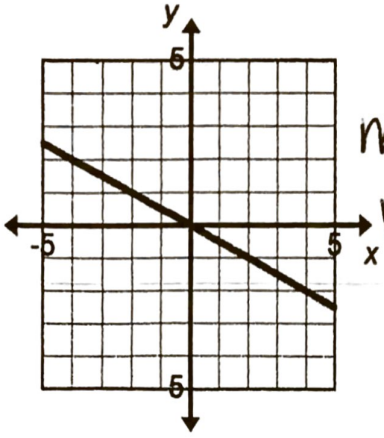
15. The slope of a horizontal line is 0. (True) or False

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.

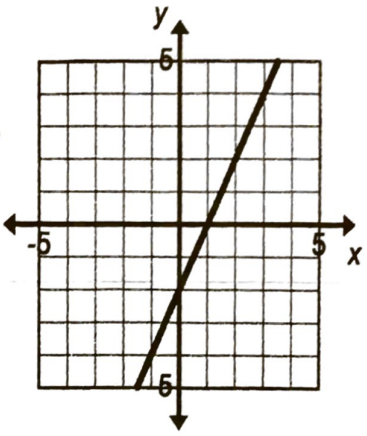
18.



$m = -\frac{1}{2}$

$b = 0$

19.



$m = 2$

$b = -2$

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

$m = -2$

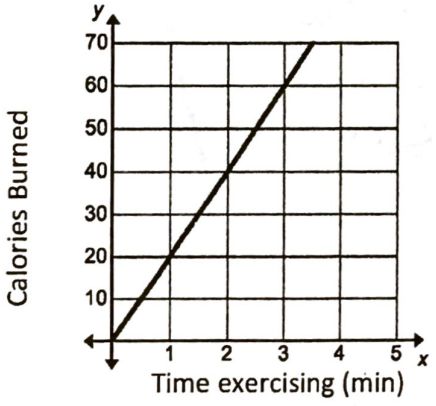
21.

x	y
−6	18
−1	3
1	−3
4	−12

$m = -3$

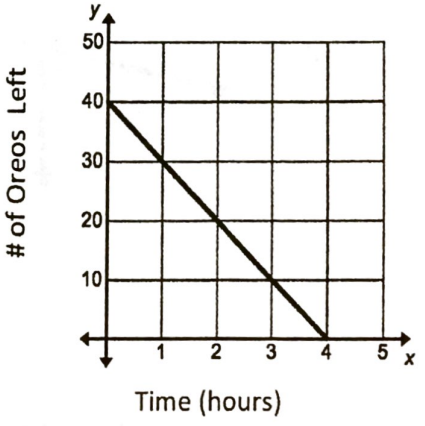
Find and explain the rate of change (with units).

22.



$\frac{20 \text{ calories burned}}{1 \text{ min of exercise}}$

23.



$\frac{-10 \text{ oreos left}}{1 \text{ hour}}$

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?

$-\frac{4}{5}$

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?

$-\frac{1}{7}$

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

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

NON-LINEAR

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

LINEAR

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

NON-LINEAR

29.

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

NON-LINEAR

30.

X	Y
25	5
16	4
9	3
4	2

NON-LINEAR

31.

X	Y
1	1
2	8
3	27
4	64

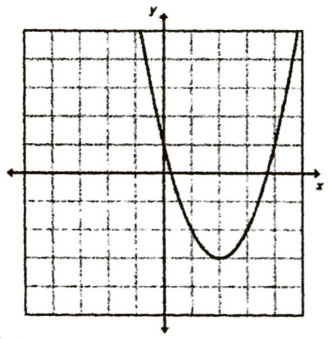
NON-LINEAR

32.

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

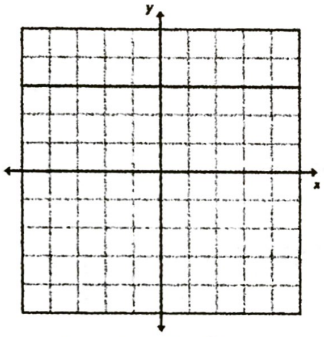
NON-LINEAR

33.



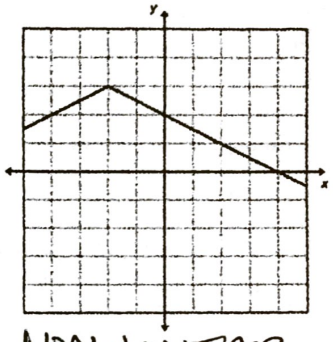
NON-LINEAR

34.



LINEAR

35.



NON-LINEAR

Fill in the blank from the word bank.

36. In the equation $y = mx + b$, b stands for y-intercept.

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

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

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

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

Diagonal/Slanted

Slope

Vertical

x-intercept

Horizontal

y-intercept

Solve for y.

41. $3x - 5y = 15$

$y = \frac{3}{5}x - 3$

42. $4x + 9y = 12$

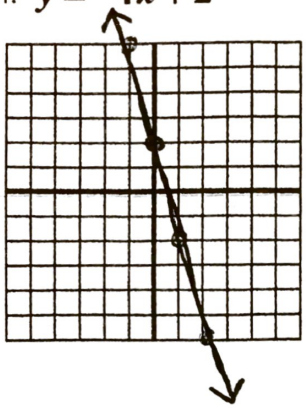
$y = -\frac{4}{9}x + \frac{4}{3}$

43. $7x - 14y = 7$

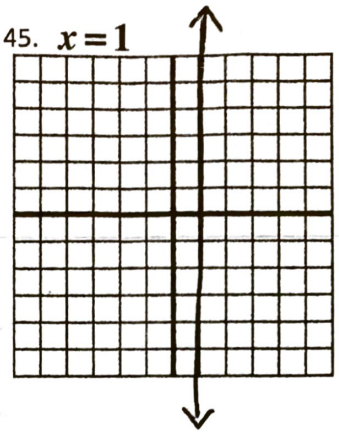
$y = \frac{1}{2}x - \frac{1}{2}$

Graph using any method.

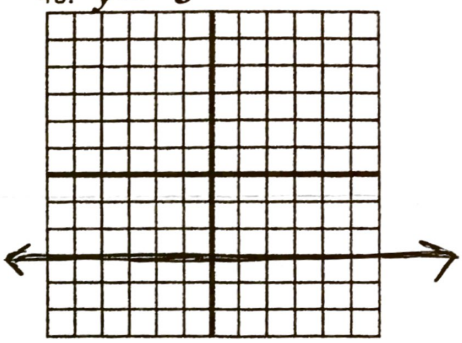
44. $y = -4x + 2$



45. $x = 1$

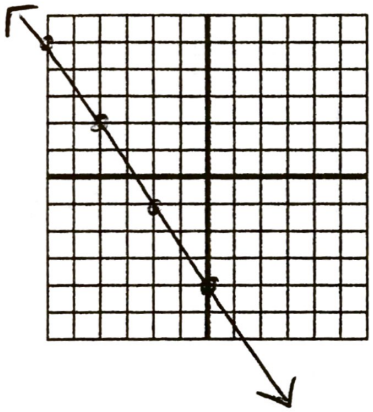


46. $y = -3$



Is the point on the line?

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



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

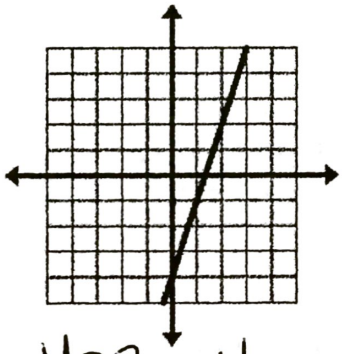
NO

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

Yes

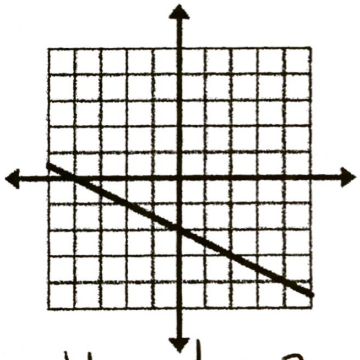
Write the equation of the line for the given graph.

50.



$y = 3x - 4$

51.



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

Write the equation of the line.

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

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

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

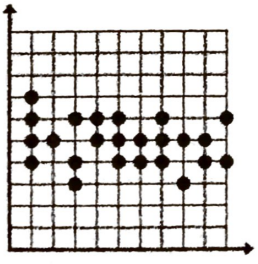
$y = -\frac{1}{2}x - 6$

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

$y = 2x - 11$

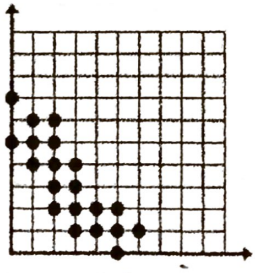
Determine the correlation of each scatter plot.

55.



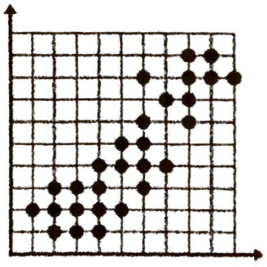
NO CORRELATION

56.



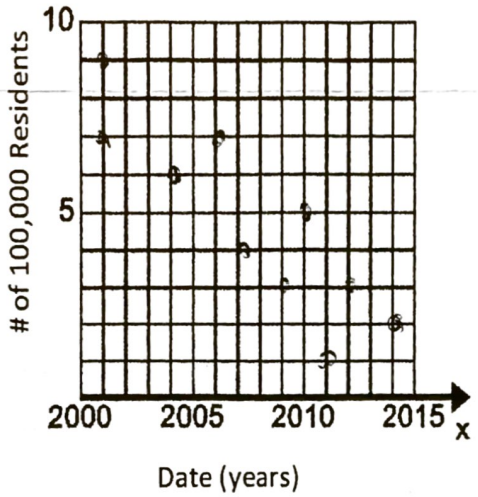
NEGATIVE CORRELATION

57.



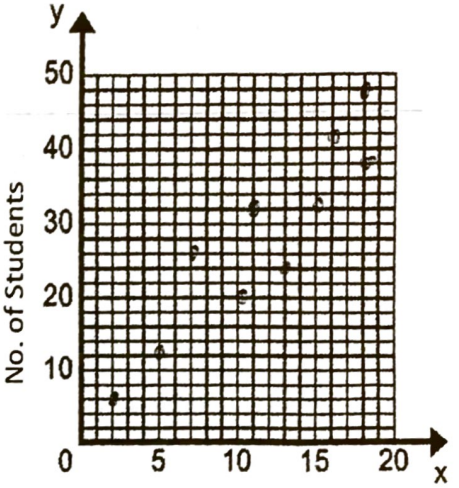
POSITIVE CORRELATION

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.



Date (years)

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.



Time (years)

60. $\frac{1.25 \times 10^{-6}}{6.25 \times 10^{5}}$ 2×10^{-12}

61. $(2.3 \times 10^{-5})(6.1 \times 10^{5})$ 1.403×10^{1}

62. $(5.4 \times 10^{-3})(6.8 \times 10^{-4})$ 3.6072×10^{-6}

63. $(3.602 \times 10^{8}) - (5.04 \times 10^{6})$ 3.55116×10^{8}

64. $(7.08 \times 10^{6}) + (1.04 \times 10^{8}) = 1.1108 \times 10^{8}$

65. The population of Washington is 6.9×10^{6} people, Oregon is 3.9×10^{6} people, and Idaho is 1.6×10^{6} people. These three states make up the Pacific Northwest. What is the total population of the Pacific Northwest? 1.24×10^{7} people

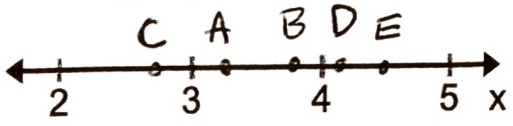
66. Order this set of numbers from least to greatest.

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

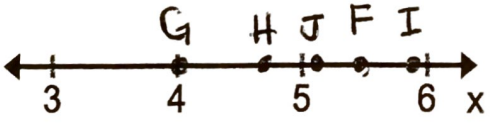
$\sqrt{36}, \sqrt{40}, 6.9, \sqrt{49}, 7.3$

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. $5\sqrt{72}$

$30\sqrt{2}$

70. $5\sqrt{12}$

$10\sqrt{3}$

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

$4\sqrt{3}$

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

$5\sqrt{15} + 4\sqrt{5}$

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

$30\sqrt{6}$

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

$2\sqrt{2}$

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

$14\sqrt{5}$

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

6

77. $\sqrt{512}$

$16\sqrt{2}$

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

8

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

9

80. $\sqrt{x} = 16$

$x = 256$