

Name: _____

Date: _____ Period _____

Algebra 1: Semester 1 Review Packet for chapters 4, 5, and 6

46. An 8-ounce bottle of lotion costs \$4.50. What is the cost per ounce?

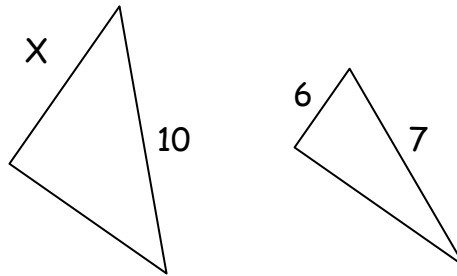
47. A pound of coffee costs \$14.99. What is the cost per ounce?

48. Solve $\frac{x-1}{-4} = \frac{2}{3}$

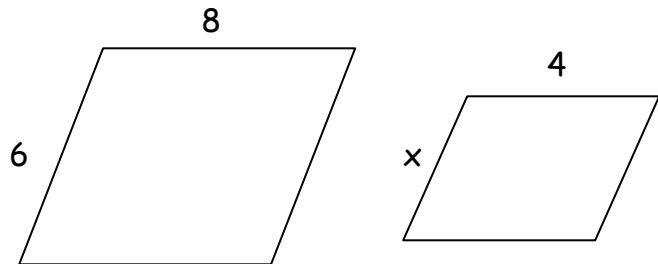
49. Solve $\frac{3}{6} = \frac{x-3}{8}$

50. A canary's heart beats 130 times in 12 seconds. Use a proportion to find out how many times its heart beats in 50 seconds.

51. Using the similar figures, find x .



52. Using the similar figures, find x .



53. A blueprint scale is 1 in : 12 ft. The width of a building is 48 feet. What is the width of the building on the blueprint?

54. A map has a scale of 1 in : 25 mi. Two cities are 175 miles apart. How far apart are they on the map?

55. 25% of what is 28?

56. 60% of what is 45?

57. What is 250% of 14?

58. You spent 16% of your vacation money on food. If you spent \$48 on food, how much money did you spend on your vacation?

59. Sarah spends 30% of her monthly income on rent. If she pays \$810 for rent each month, what is her monthly income?

60. In 1980, the average annual tuition charge for a four-year public university was \$840. The average annual tuition charge in 2000 was \$3356. What is the percent of change?

61. The United States imported 6,909,000 barrels of oil per day in 1980. In 2000, the U.S. imported 11,459,000 barrels of oil per day. What is the percent of change?

62. Find the domain and range of the relation: $\{(-3, -7), (-1, -3), (0, -1), (2, 3), (4, 7)\}$

63. Find the domain and range of the relation: $\{(-5, -4), (-4, 2), (0, 2), (1, 3), (2, 4)\}$

64. Evaluate the function for $x = 3$ $f(x) = 2x - 15$

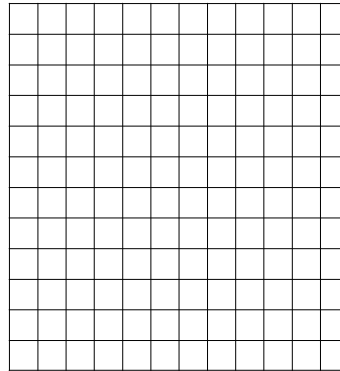
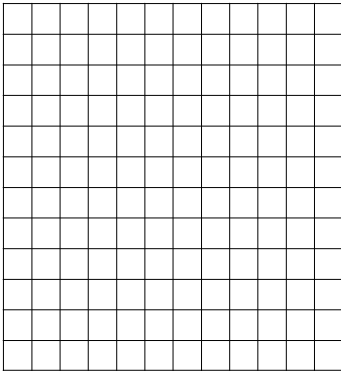
65. Evaluate the function for $x = -4$ $f(x) = -x + 3$

66. Find the range of the function for the given domain:
domain $\{-2, -1, 0\}$ $f(x) = -3x + 1$

Use a table of values to graph each of the following:

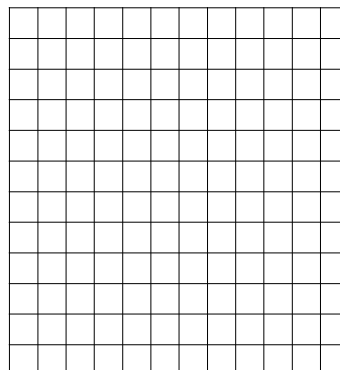
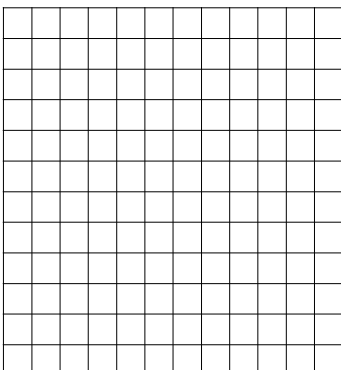
67. $y = |x| - 3$

68. $y = x^2 - 4$

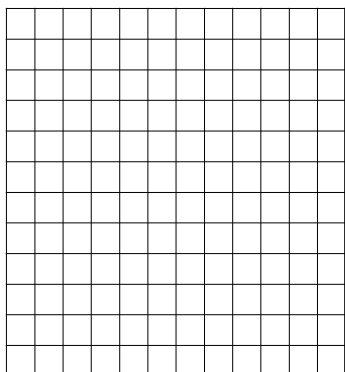


69. $y = -|x| + 3$

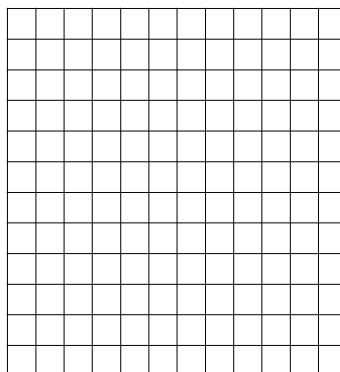
70. $f(x) = -x^2 + 2$



71. Graph $f(x) = -3x + 7$



72. Graph $f(x) = -\frac{1}{2}x + 3$



For 73 and 74, write a function rule for the table:

73.

x	y
0	0
1	3
2	6
3	9

74.

x	f(x)
0	-1
1	0
2	1
3	2

For 75 and 76, find the common difference of the arithmetic sequence.

75. 9, 10.5, 12, 13.5, ...

76. 1, -1.5, -4, -6.5, ...

For 77 and 78, find the fifth, tenth, and hundredth term of the sequence.

77. $A(n) = 4 + (n-1)(10)$

78. $A(n) = 14 + (n-1)(-8)$

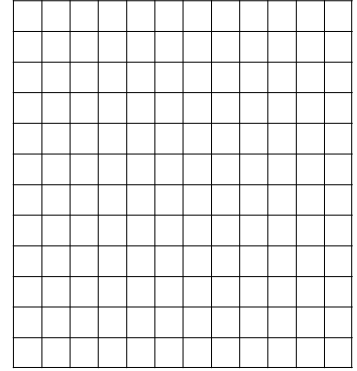
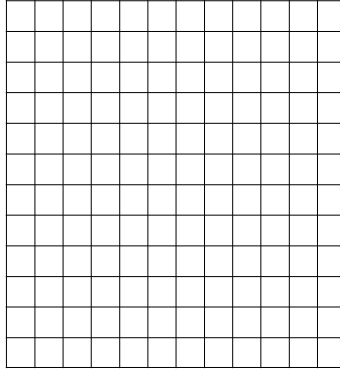
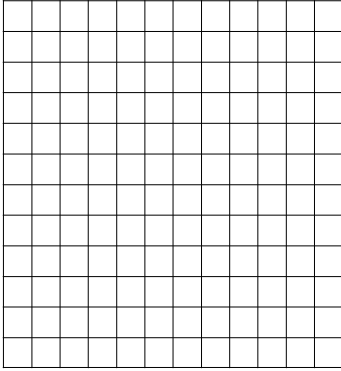
79. Determine whether or not the sequence is arithmetic. Explain your answer.
3, 6, 12, 24, ...

For 80, 81, and 82, Graph using the slope and y-intercept:

80. $y = \frac{2}{5}x + 3$

81. $y = -6$

82. $y = \frac{-7}{4}x + 6$



83. Write an equation for the line with the given slope and y-intercept.

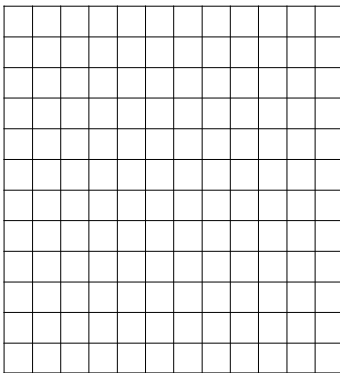
$m = 4$ $b = 8$

84. Write an equation for the line with the given slope and y-intercept.

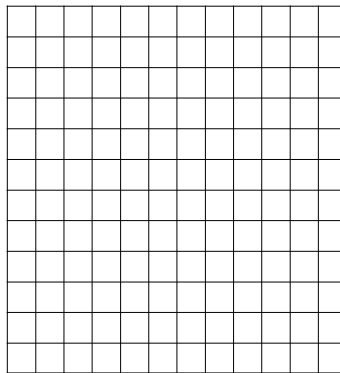
$m = -1$, $b = -3$

For 85, 86, and 87, write an equation for each line.

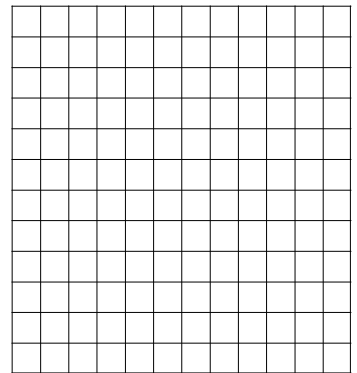
85.



86.



87.

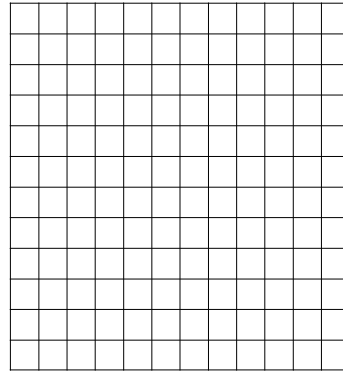


88. Write the equation in standard form: $y = \frac{-x}{3} + \frac{2}{3}$

89. The student council is sponsoring a carnival to raise money. Tickets cost \$5 for adults and \$3 for students. The student council wants to raise \$450.

A) Write an equation to find the number of adult and student tickets they should sell.

B) Graph your equation using x- and y-intercepts.



C) Use your graph to find two different combinations of tickets they can sell to meet their goal.

90. Write an equation in slope-intercept form for the line that goes through the points $(2, -5)$ and $(0, -7)$

91. Write an equation in slope-intercept form for the line that goes through the points $(-2, -6)$ and $(8, 4)$

92. Write an equation for the line that is parallel to $y = 2x - 7$ and goes through $(3, 4)$.

93. Write an equation for the line perpendicular to $y = \frac{1}{6}x + 1$ through $(-1, -4)$

94. Are the lines parallel, perpendicular, or neither. Explain:

$$y = 3x - 8$$

$$3x - y = -1$$