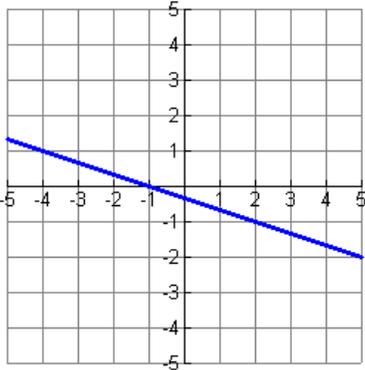


Unit 5 Study Guide

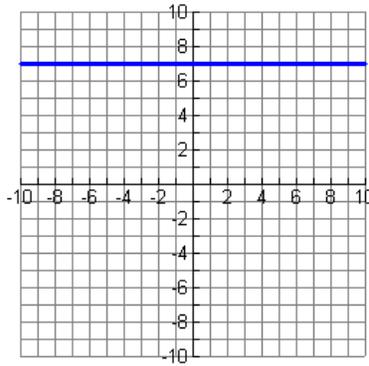
Equations of Lines from a Graph & Data

Write the equation of the lines graphed below in slope-intercept form. Prove that the equation is correct by choosing another point to evaluate the equation.

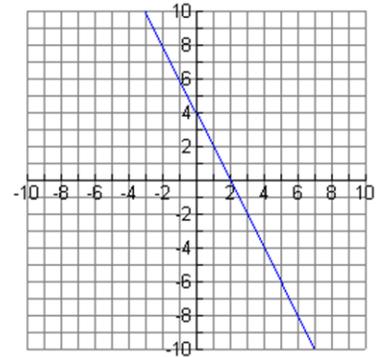
1. Equation: _____



2. Equation: _____

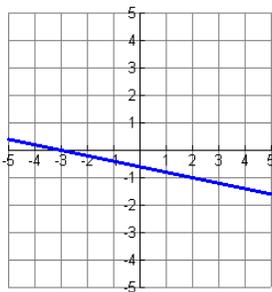


3. Equation: _____

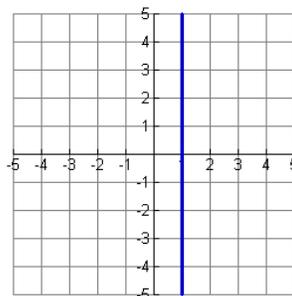


Write the equation of the lines graphed below in point-slope form and in slope-intercept form. Prove that the equation is correct by choosing another point to the equation.

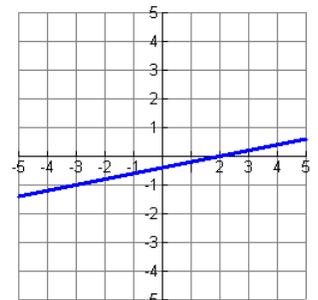
4. Point-Slope Form: _____



5. Point-Slope Form: _____



6. Point-Slope Form: _____



Slope-Intercept Form:

Slope-Intercept Form:

Slope-Intercept Form:

7. Write the equation of the line in slope-intercept form that has a rate of change (m) of $\frac{1}{2}$ and contains the point (4, 0).

Equation: _____

8. Write the equation of the line in slope-intercept form that passes through the points (-2, 3) and (5, -1).

Equation: _____

9. Write the equation of the line that passes through the points (3, 5) and (3, -4) in slope-intercept form.

Equation: _____

10. Write the equation of the line in slope-intercept form that represents the data from the following table:

Input	1	2	3	4	5
Output	0	-3	-6	-9	-12

11. Write the equation of the line in slope-intercept form that represents the data from the following table:

Input	-1	-3	-5	-7	-9	-11
Output	$1\frac{1}{2}$	3	$4\frac{1}{2}$	6	$7\frac{1}{2}$	9

Equations of Parallel and Perpendicular Lines

Final equations should be in slope-intercept form.

12. Given the line $y + 3 = -(x + 2)$ and the point $(6, 4)$, write an equation that is parallel to the given line that goes through the given point.

13. Given the line $y = 0$ and the point $(1, -3)$, write an equation that is parallel to the given line and goes through the given point.

14. Write an equation of the line that passes through $(0, -5)$ and is perpendicular to the line $y = -\frac{1}{2}x + 3$.

15. Write an equation of the line that is perpendicular to $5y = -x - 6$ and passes through $(0, 0)$.

Equations of a Line From Context

Define all of your variables and final equations should be in slope-intercept form.

16. There are half as many cats than dogs. Complete the table with possible combinations of cats and dogs and write an equation that represents ALL of the possible combinations.

Dogs	Cats

Equation: _____

17. Joe buys pens and pencils. Pens cost \$1.50 and pencils cost \$0.75. Write an equation that represents the possible combinations of how many of each he can buy for \$12.

Equation: _____

18. Jill makes \$8.00 per hour plus a base pay. If she makes \$58 in 6 hours, write the equation that represents her total amount of pay.

Equation: _____

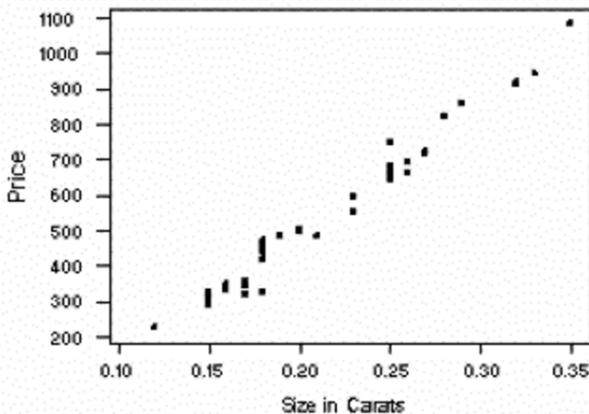
19. A BMX racetrack charges a membership fee and an entry fee per race. One racer paid a total of \$76 after 3 races. Another racer paid a total of \$124 after 7 races. Write an equation that gives the total cost as a function of the number of races entered.

Equation: _____

Lines of Best Fit

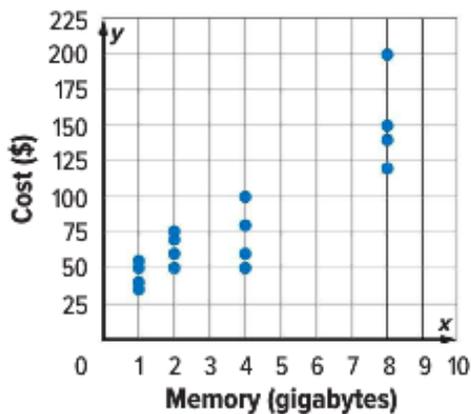
Final equations should be in slope-intercept form.

20. The scatterplot below shows the size of the diamond to the cost. Write an equation of the line that you think best fits this data. Make sure you circle two points, write the coordinates of the points, and write an equation.



Equation: _____

21. The scatterplot below shows data for the amount of memory in an MP3 player and the cost. Write an equation of the line that you think best fits this data. Make sure you circle two points, write the coordinates of the points, and write an equation.



Equation: _____

22. Which of the following scatterplots has the strongest correlation? Is the correlation positive or negative?

