

Algebra 2

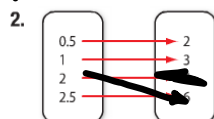
Review for Ch.2 test (tomorrow)

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State the domain and range of each relation.  
 Then determine whether each relation is a  
 function. If it is a function, determine if it is  
 one-to-one, **onto** 😊 (Lesson 2-1)

1.

x	y
-2	4
-1	1
2	4
2	6



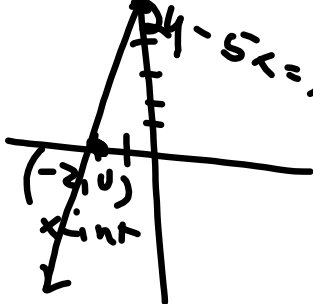
D -2, -1, 2  
 R 4, 1, 6

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Find the  $x$ -intercept and  $y$ -intercept of the graph of each equation. Then graph the equation using the intercepts. (Lesson 2-2)

3.  $y = 3x - 9$

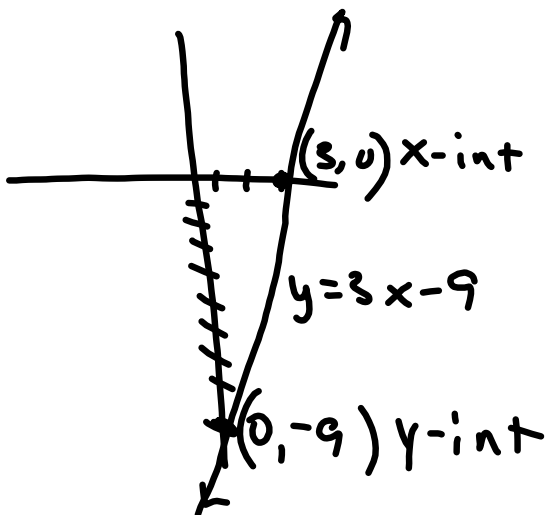
$y$ -int  
 $(0, -9)$



4.  $2y - 0 = 10$

$$\frac{2y}{2} = \frac{10}{2}$$

$$y - 5 = 0, y = 5$$



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7. **REPAIR** An auto mechanic charges an initial fee of \$25 plus an hourly fee of \$35. (Lesson 2-2)

a. Write an equation to represent the situation.

$$y = 35x + 25$$

b. How much did it cost Stacy if the mechanic fixed her car in 3.5 hours?

$$= 35(3.5) + 25$$

$$= \$147.50$$

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Find the slope of the line that passes through each pair of points. (Lesson 2-3)

8.  $(1, -7), (-3, 5)$

$$m = \frac{\text{rise}}{\text{run}} = \frac{5 - (-7)}{-3 - 1} = \frac{12}{-4} = -3$$

$$y = -3x + b$$

$$5 = -3 \cdot (-3) + b$$

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Write an equation of the line passing through each pair of points. (Lesson 2-4)

12.  $(-3, -14), (1, -2)$

$$m = \frac{-2 - (-14)}{1 - (-3)} = \frac{12}{4} = 3$$

$$y = 3x - 5$$

$$y = mx + b$$

$$-2 = 3 \cdot 1 + b$$

$$-2 = 3 + b$$

$$b = -5$$

$$y - y_1 = m(x - x_1)$$

$$y + 2 = 3(x - 1)$$

$$y + 2 = 3x - 3$$

$$\underline{\underline{-2}} \quad \underline{\underline{-3}}$$

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Write the equation of a line parallel to  $y = 2x + 3$  passing through  $(1, 7)$ .

$$m = \frac{2}{1} \quad (1, 7)$$

$$y = mx + b$$

$$y = 2x + 5$$

$$7 = 2 \cdot 1 + b$$

$$7 = 2 + b$$

$$\begin{array}{r} -2 \\ -2 \end{array}$$

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Write the equation of a line perpendicular to  $y = -3x + 2$  passing through  $(-6, 8)$

$$m = +\frac{1}{3} \quad (-6, 8)$$

$$y = mx + b$$

$$8 = \frac{1}{3} \cdot -6 + b$$

$$y = \frac{1}{3}x + 10$$

$$8 = -2 + b$$

$$\begin{array}{r} +2 \quad +2 \\ \hline 10 = b \end{array}$$

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**2-5 Scatter Plots and Lines of Regression**

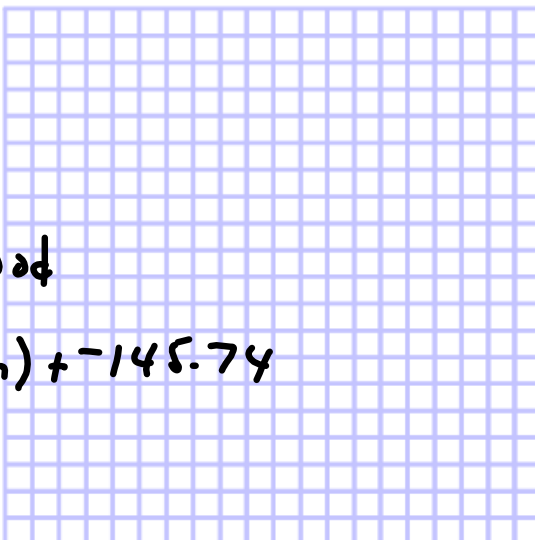
Make a scatter plot and a line of fit and describe the correlation for each set of data. Then, use two ordered pairs to write a prediction equation.

42. **HEATING** The table shows the monthly heating cost for a large home.

Month	1	2	3	4	5	6
Bill (\$)	72	114	164	198	224	185

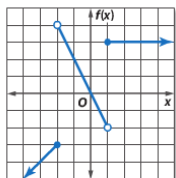
$r = 0.88$  pretty good

$Cost = 26.54(\text{months}) + -145.74$



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46. Write the piecewise-defined function shown in the graph.

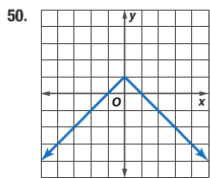
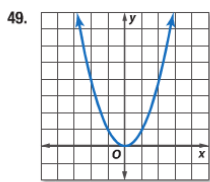


$$f(x) = \begin{cases} x-1 & \text{if } x \leq -2 \\ -2x & \text{if } -2 < x < 1 \\ 3 & \text{if } x \geq 1 \end{cases}$$

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**2-7 Parent Functions and Transformations**

Identify the type of function represented by each graph.



51. Describe the translation in  $y = x^2 - 3$ .

52. Describe the reflection in  $y = -x^2$ .

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**2-8 Graphing Linear and Absolute Value Inequalities**

Graph each inequality.

54.  $x - 3y < 6$

55.  $y \geq 2x + 1$

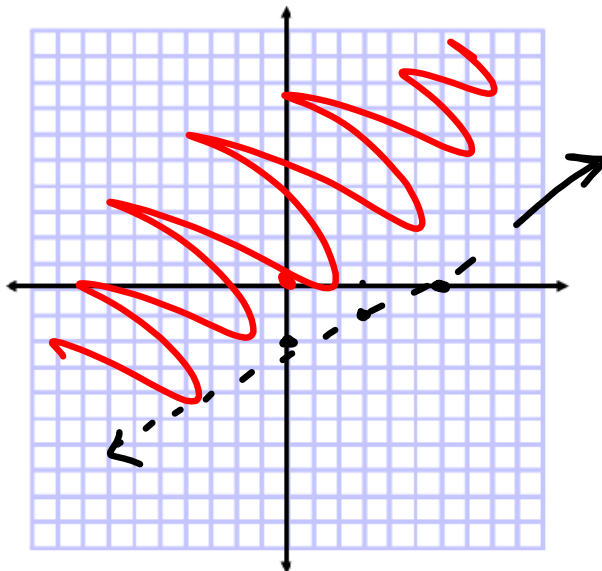
Handwritten work for problem 54:

$$x - 3y = 6$$

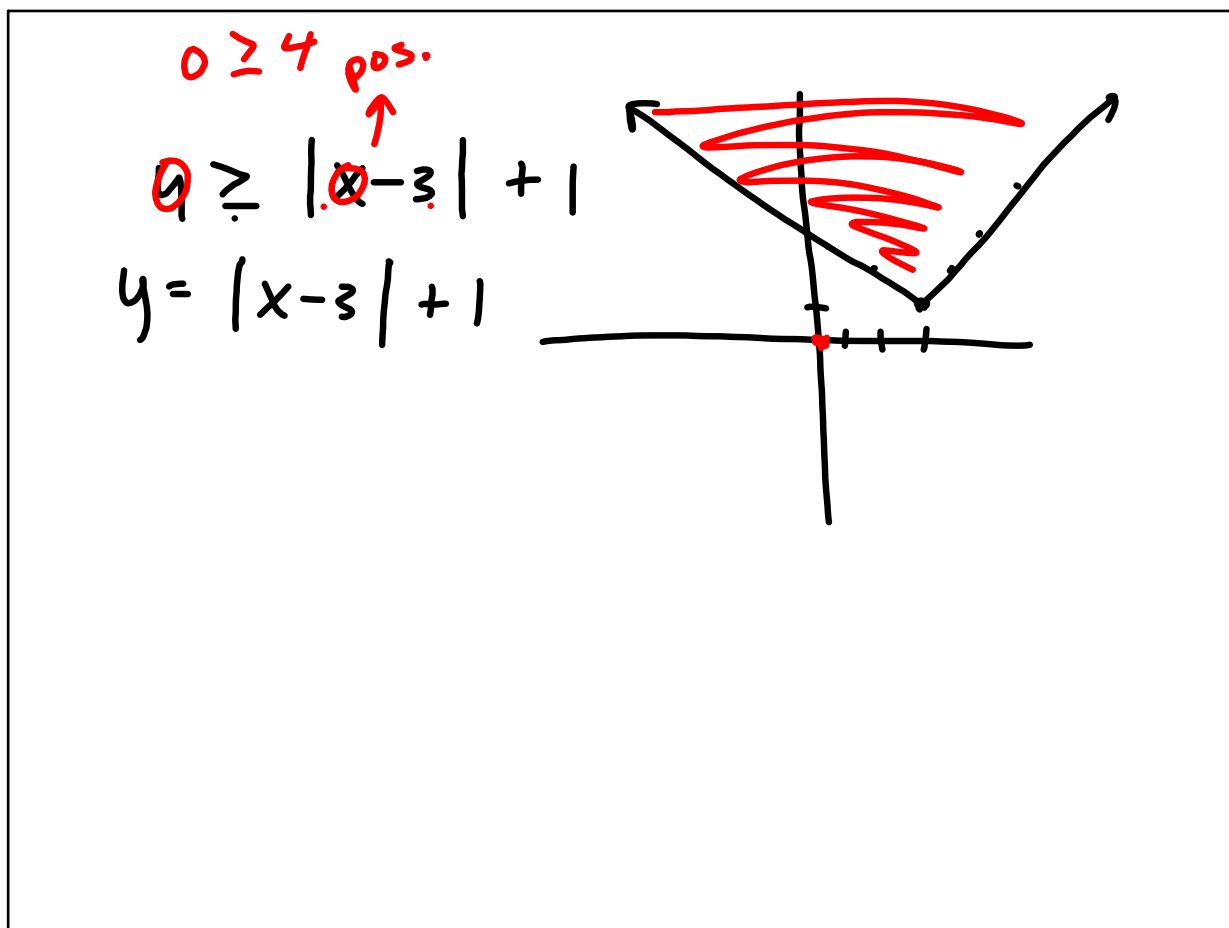
$$-x \quad -x$$

$$\frac{-3y}{-3} = \frac{-x + 6}{-3}$$

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



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