



5. Determine whether each of the relations below is a function and then, using proper set notation, state its domain and range.

(A)  $\{(1, 7), (2, 5), (4, 5), (6, 6)\}$     (B)  $\{( , ), ( , ), ( , )\}$     (C)  $\{(2, 8), (3, 10), (2, 5), (6, 17)\}$

Domain:

Domain:

Domain:

Range:

Range:

Range:

6.  $y$  varies directly as  $x$ . If  $y$  is 30 when  $x$  is 0.6, ...

<p>(A) find the constant of direct variation, <math>k</math>. Show some work!</p>	<p>(B) write an equation of direct variation in the form <math>y = kx</math>.</p>	<p>(C) find <math>y</math> when <math>x</math> is 20. Show your work!</p>
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7. Show your work as you find the slope of the line that passes through the following points:

(A) (8, -13) and (2, -6)

(B) (9, 6) and (-5, 3)

8. Determine whether each statement is true or false. Write the entire word, not simply “T” or “F”.

\_\_\_\_\_ When read from left to right, a line with a positive slope will be decreasing.

\_\_\_\_\_ The slope of any horizontal line is zero.

\_\_\_\_\_ It is impossible for the slope of a line to be undefined.

\_\_\_\_\_ When read from left to right, the line  $y = \frac{1}{3}x$  increases more quickly than the line  $y = \frac{1}{2}x$ .

5. Match each term with its correct formula.

\_\_\_\_\_ Slope-Intercept Form

(A)  $y = b$

\_\_\_\_\_ Vertical Line

(B)  $y - y_0 = m(x - x_0)$

\_\_\_\_\_ Standard Form

(C)  $x = a$

\_\_\_\_\_ Point-Slope Form

(D)  $y = mx + b$

\_\_\_\_\_ Horizontal Line

(E)  $Ax + By = C$

6. Write the equation of the line (in Slope-Intercept Form) that passes through the points (8, -3) and (16, 4). Show your work!

7. Write the equation of the line (in Point-Slope Form) that passes through the points (-4, -3) and (-8, -9). Show your work!

8. Find the  $x$  and  $y$  intercepts of the line  $-3x + 5y = -60$ . Show your work! You can express your final answer as either a single number or an ordered pair.

$x$  - intercept:

$y$  - intercept:

9. Convert the equation  $y - 8 = -3(x + 5)$  from Point-Slope Form to Slope-Intercept Form. Show your work!

10. Using the rectangular coordinate system below, graph each of the linear equations. Write each equation beside its corresponding graph.

$$y = -5x + 7$$

$$2x - 4y = 16$$

$$y = -5$$

$$y - 5 = \frac{1}{6}(x + 4)$$

$$x = 8$$

