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Topic 1: Using distribution and combining like terms to simplify: Univariate

Shown below on Test Work Page.

Topic 2: Solving a two-step equation with integers

$$\begin{array}{r} 24 = 3y + 6 \\ -6 \quad -6 \\ \hline 18 = 3y \\ \frac{18}{3} = \frac{3y}{3} \\ \boxed{6 = y} \end{array}$$

Topic 3: Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators

Shown below on Test Work Page and another example below.

Topic 4: Solving for a variable in terms of other variables using addition or subtraction: Advanced (1m)

Solve for z .

$$x + 8 + z = A$$

$$\begin{array}{r} -x - 8 \\ \hline z = A - x - 8 \end{array}$$

Topic 5: Solving for a variable in terms of other variables using multiplication or division: Basic

Solve for g

$$9g = w$$

$$\frac{9g}{9} = \frac{w}{9}$$

$$g = \frac{w}{9}$$

Topic 6: Solving a one-step word problem using the formula $d = rt$

Ryan is riding his bicycle. He takes 4 hours to ride 51.2 kilometers. What is his speed?

$$d = rt$$

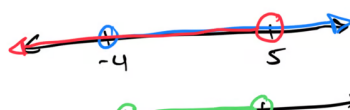
$$\frac{51.2}{4} = \frac{r \cdot 4}{4}$$

$$12.8 = r$$

d = distance
 r = rate
 t = time

Topic 7: Graphing a compound inequality on the number line

$$x > -4 \text{ and } x < 5$$



$\circ$ $<$ $>$
 $\bullet$ $\leq$ $\geq$



Topic 8: Solving a two-step linear inequality: Problem type 2

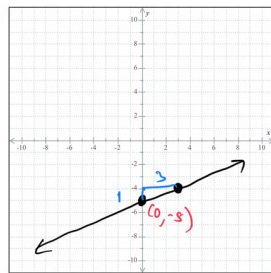
Shown below on Test Work Page.

Topic 9: Graphing a line given its equation in slope-intercept form: Fractional slope

Shown below on Test Work Page.

Graph the line.

$$y = \frac{1}{3}x - 5$$



$$y = \frac{1}{3}x - 5$$

$$y = mx + b$$

$$m = \frac{1}{3} \quad \begin{matrix} \text{up 1} \\ \text{right 3} \end{matrix}$$

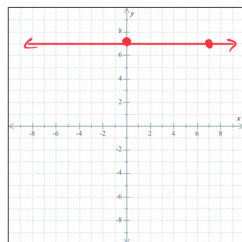
$$b = -5 \quad x = 0$$

Starting point

Topic 10: Graphing a vertical or horizontal line

Shown below on Test Work Page.

Graph the line $y = 7$.



$$y = \#$$

Horizontal line
 $m = 0$

$$x = \#$$

Vertical line
 $m = \text{undefined}$

Topic 11: Finding x- and y-intercepts of a line given the equation: Advanced

$$9x - 7y = -12$$

$x\text{-int}$
 $y = 0$

$$9x - 7(0) = -12$$

$$\frac{9x}{9} = \frac{-12}{9}$$

$$x = -\frac{12}{9} = -\frac{4}{3}$$

$y\text{-int}$
 $x = 0$

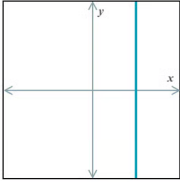
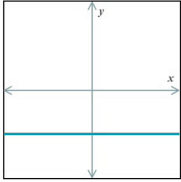
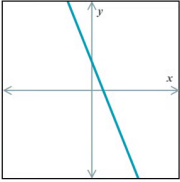
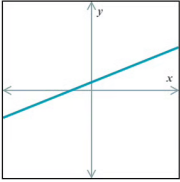
$$9(0) - 7y = -12$$

$$\frac{-7y}{-7} = \frac{-12}{-7}$$

$$y = \frac{12}{7}$$

Topic 12: Classifying slopes given graphs of lines

For each line, determine whether the slope is positive, negative, zero, or undefined.

Line 1	Line 2	Line 3	Line 4
			
☐ Positive ☐ Negative ☐ Zero ☒ Undefined	☐ Positive ☐ Negative ☒ Zero ☐ Undefined	☐ Positive ☒ Negative ☐ Zero ☐ Undefined	☒ Positive ☐ Negative ☐ Zero ☐ Undefined

Topic 13: Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$

Shown below on Test Work Page.

$-3(v+1) + 2$ $-3v - 3 + 2$ $\boxed{-3v - 1}$	$\frac{20}{5} = \frac{y}{4} - 4$ $4y = 5y - 80$ $-y = -80$ $y = 80$
1 - Show your work. $-6v - 2 \geq -26$ $\begin{array}{r} +2 \\ +2 \end{array}$ $\frac{-6v}{-6} \geq \frac{-24}{-6}$ $\boxed{v \leq 4}$	3 - Show your work. 9 - Answer the following questions: $y = \frac{1}{3}x - 5$ What is your slope? Also write how much it goes up/down and how much it goes to the right/left $m = \frac{1}{3} \quad \begin{array}{l} \text{up 1} \\ \text{right 3} \end{array}$ What is your y-intercept? What does x equal at the y-intercept and what do we call that? $b = -5 \quad x = 0 \quad (0, -5)$ starting point
8 - Show your work. 10 - What is the slope of: $x = 3$ $m = \text{undefined}$ $y = -2$ $m = 0$	13 - Show your work. $7x + 4y = -5$ $-7x$ $\frac{4y}{4} = \frac{-7x + 5}{4}$ $y = -\frac{7}{4}x + \frac{5}{4}$ $m = -\frac{7}{4} \quad b = \frac{5}{4}$