

Quarter 3 Skills Quiz Practice

1. Add/Subtract/Multiply/Divide

a. $\frac{2}{3} + \frac{5}{2}$ $\frac{4}{6} + \frac{15}{6} = \frac{19}{6}$	b. $\frac{2}{3} - \frac{5}{2}$ $\frac{4}{6} - \frac{15}{6} = \frac{-11}{6}$	c. $\frac{2}{3} \cdot \frac{5}{2}$ $\frac{10}{6}$ or $\frac{5}{3}$	d. $\frac{2}{3} \div \frac{5}{2}$ $\frac{2}{3} \cdot \frac{2}{5} = \frac{4}{15}$
e. $\frac{1}{4} + \frac{11}{12}$ $\frac{3}{12} + \frac{11}{12} = \frac{14}{12}$ or $\frac{7}{6}$	f. $\frac{1}{4} - \frac{11}{12}$ $\frac{3}{12} - \frac{11}{12} = \frac{-8}{12}$ or $\frac{-2}{3}$	g. $\frac{1}{4} \cdot \frac{11}{12}$ $\frac{11}{48}$	h. $\frac{1}{4} \div \frac{11}{12}$ $\frac{1}{4} \cdot \frac{12}{11} = \frac{12}{44}$ or $\frac{3}{11}$
i. $\frac{1}{2} + \frac{3}{4}$ $\frac{2}{4} + \frac{3}{4} = \frac{5}{4}$	j. $\frac{2}{3} - \frac{4}{5}$ $\frac{10}{15} - \frac{12}{15} = \frac{-2}{15}$	k. $\frac{2}{5} + \frac{1}{2} - \frac{4}{3}$ $\frac{12}{30} + \frac{15}{30} - \frac{40}{30} = \frac{-13}{30}$	

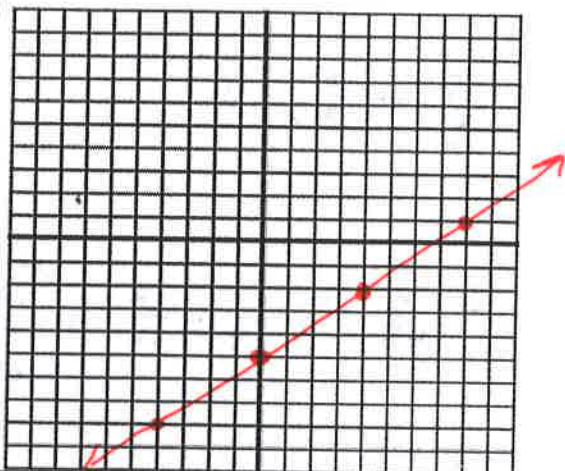
2. Writing Linear Equations in a form of your choice

Slope-Intercept Form	Point-Slope Form	Standard Form	Graphing Form
$y = mx + b$	$y - y_1 = m(x - x_1)$	$Ax + By = C$	$y = a(x - h) + k$

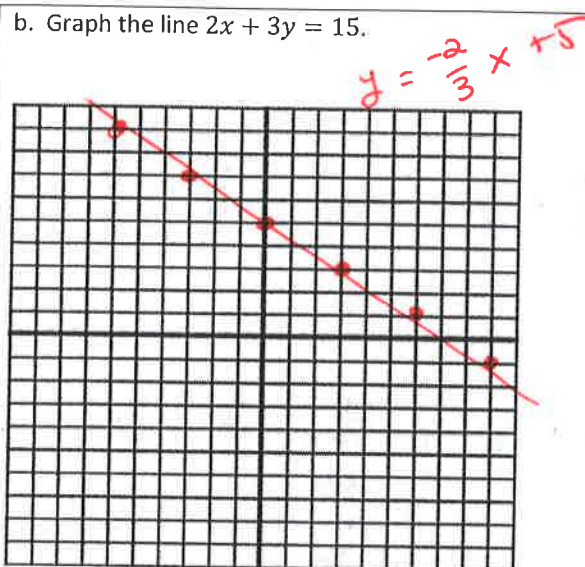
a. Write an equation for a line with a slope of $\frac{-2}{5}$ containing the point (1, -3). $y + 3 = \frac{-2}{5}(x - 1)$	b. Write an equation for a line containing the points (2, 6) and (-3, 8). $m = \frac{2}{5} \text{ or } -\frac{2}{5}$ $y - 6 = -\frac{2}{5}(x - 2)$	c. Write an equation for a vertical line containing the point (-4, -2). $x = -4$																																										
d. Write an equation for a line with a slope of 3 containing the origin. $y = 3x$	e. Write an equation for a horizontal line containing the point (8, 7). $y = 7$	f. Write an equation for a line represented in the table below. <table border="1"><tr><td>x</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>y</td><td>7</td><td>4</td><td>1</td><td>-2</td><td>-5</td><td>-8</td></tr></table> $y = -\frac{3}{1}x + 4$	x	-1	0	1	2	3	4	y	7	4	1	-2	-5	-8																												
x	-1	0	1	2	3	4																																						
y	7	4	1	-2	-5	-8																																						
g. <table border="1"><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>y</td><td>5</td><td>12</td><td>19</td><td>26</td><td>33</td><td>40</td></tr></table> $y = 7x + 5$	x	0	1	2	3	4	5	y	5	12	19	26	33	40	h. <table border="1"><tr><td>x</td><td>-6</td><td>-4</td><td>-2</td><td>0</td><td>2</td><td>4</td></tr><tr><td>y</td><td>24</td><td>19</td><td>14</td><td>9</td><td>4</td><td>-1</td></tr></table> $y = -\frac{5}{2}x + 9$	x	-6	-4	-2	0	2	4	y	24	19	14	9	4	-1	i. <table border="1"><tr><td>x</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>y</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr></table> $y = x + 6$	x	2	3	4	5	6	7	y	8	9	10	11	12	13
x	0	1	2	3	4	5																																						
y	5	12	19	26	33	40																																						
x	-6	-4	-2	0	2	4																																						
y	24	19	14	9	4	-1																																						
x	2	3	4	5	6	7																																						
y	8	9	10	11	12	13																																						

3. Graphing Lines

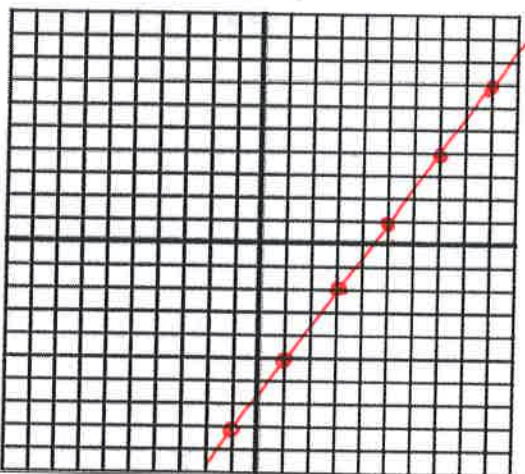
a. Graph the line $y = \frac{3}{4}x - 5$.



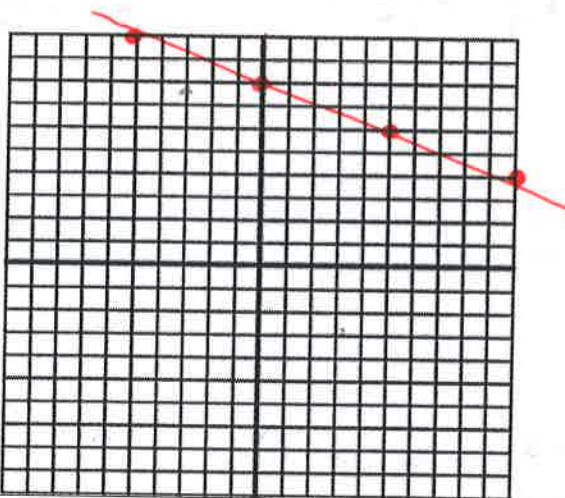
b. Graph the line $2x + 3y = 15$.



c. Graph the line $y = \frac{3}{2}(x - 5) + 1$



d. Graph the line $y - 4 = \frac{-2}{5}(x - 10)$



4. Write an exponential function representing the information in each table.

a.

x	0	1	2	3	4	5
y	-4	-8	-16	-32	-64	-128

$$y = (-4)(2)^x$$

b.

x	1	2	3	4	5	6
y	5	15	45	135	405	1215

$$y = \frac{5}{3}(3)^x$$

c.

x	-2	-1	0	1	2	3
y	10	5	$\frac{5}{2}$	$\frac{5}{4}$	$\frac{5}{8}$	$\frac{5}{16}$

$$y = \frac{5}{2}\left(\frac{1}{2}\right)^x$$

5. Factor a Trinomial with Leading Coefficient $\neq 1$

a. Factor $3x^2 - 10x - 8$.

$$(3x + 2)(x - 4)$$

b. Factor $2x^2 - 13x + 20$

$$(2x - 5)(x - 4)$$

c. Factor $3x^2 + 7x + 4$

$$(3x + 4)(x + 1)$$

d. Factor $4x^2 - 11x - 3$

$$(4x + 1)(x - 3)$$

e. Factor $5x^2 + 16x + 12$

$$(5x + 6)(x + 2)$$

f. Factor $9x^2 - 9x - 28$.

$$(3x - 7)(3x + 4)$$

scribbles

6. Solving Literal Equations

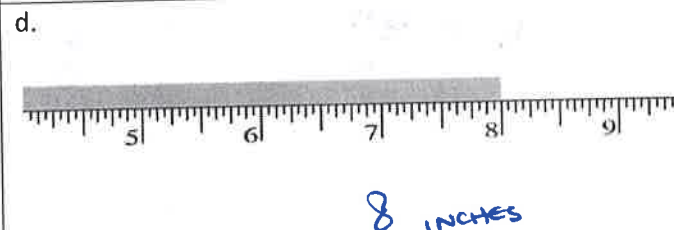
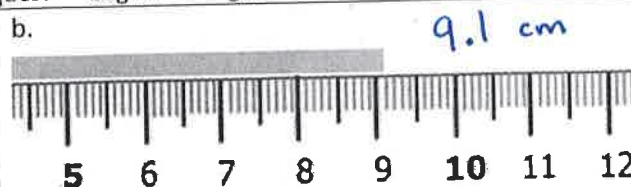
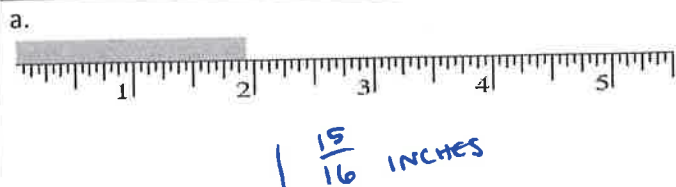
Question: Why is it beneficial to practice solving literal equations?

A literal equation is an equation (or formula) where symbols represent values.

* Solve each formula for the indicated variable.

Solve each formula for the indicated variable.			
a. $A = \frac{1}{2}bh$ for h	b. $s = \frac{1}{2}gt^2$ for g	c. $V = lwh$ for w	
$h = \frac{2A}{b}$	$g = \frac{2s}{t^2}$	$w = \frac{V}{l \cdot h}$	
d. $C = 2\pi r$ for r	e. $Ax + By = C$ for y	f. $C = \frac{5}{9}(F - 32)$ for F	
$r = \frac{C}{2\pi}$	$y = \frac{C - Ax}{B}$	$F = \frac{9}{5}C + 32$	
g. Solve $y = mx + b$ for b .	h. Solve $y = mx + b$ for m .	i. Solve $Ax + By = C$ for y .	
$b = y - mx$	$m = \frac{y - b}{x}$	$y = \frac{C - Ax}{B}$	
j. Solve $Fm + Fb = a$ for F .	k. Solve $\pi r^2 + 2\pi rh = A$ for π .	l. Solve $pb - yps = br$ for p .	m. Solve $sr + tr = u$ for r .
$F(m+b) = a$ $F = \frac{a}{m+b}$	$\pi(r^2 + 2rh) = A$ $\pi = \frac{A}{r^2 + 2rh}$	$p(b - ys) = br$ $p = \frac{br}{b - ys}$	$r(s+t) = u$ $r = \frac{u}{s+t}$
o. Solve for x . $ax + bx = c$		p. Solve for x . $\frac{x}{a} - 5 = b$	
$x(a+b) = c$ $x = \frac{c}{a+b}$		$x = ab + 5a$	
q. Solve for x . $\frac{x-2}{2} = m + n$		r. Solve for x . $\frac{2}{5}(x+1) = g$	
$x = 2m + 2n + 2$		$x = \frac{5}{2}g - 1$	

6. Measure each length (you should be within 1/16 inch or 1mm) for full credit. Be sure to include units with your answer. Consider the each image as a snapshot of the ruler. The object in question begins its length at 0 on the ruler.



Practice Basic Skills Quiz – This will be the format of your skills quizzes this quarter.

1. Write an exponential equation representing the information in each table.

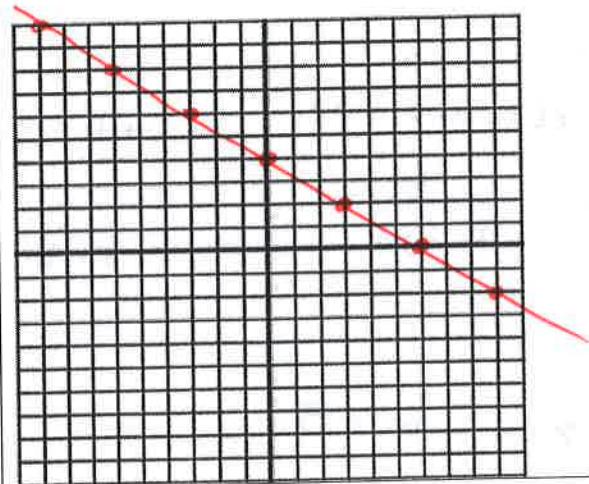
x	-1	0	1	2	3	4
y	$\frac{2}{25}$	$\frac{2}{5}$	2	10	50	250

$$y = \frac{2}{5}(5)^x$$

2. Evaluate $\frac{3}{8} \cdot \frac{-5}{9}$

$$\frac{-15}{72}$$

3. Graph the line $y = \frac{-2}{3}x + 4$.



4. Measure each length (you should be within 1/16 inch or 1mm) for full credit. Be sure to include units with your answer.



$$4 \frac{3}{8} \text{ INCHES}$$

or

$$4 \frac{6}{16} \text{ INCHES}$$

5. Solve $t = lw + s^2$ for w .

$$w = \frac{t - s^2}{l}$$

6. Evaluate $\frac{1}{3} + \frac{2}{5}$.

$$\frac{5}{15} + \frac{6}{15} = \frac{11}{15}$$

7. Write an equation for a line represented in the table below.

x	0	5	10	15	20	25
y	4	6	8	10	12	14

$$y = \frac{2}{5}x + 4$$

8. Factor $4x^2 - 3x - 10$.

$$(4x + 5)(x - 2)$$