

Top 10 V2

Friday, March 28, 2014  
9:44 AM

Name:  
Period:

1) Simplify

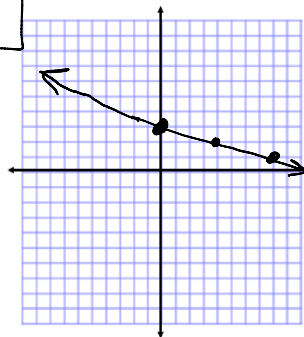
$$\begin{array}{r}
 -7 \qquad \qquad 8 \\
 3 - 10 \qquad 2 \cdot 2 \cdot 2 \\
 2(3 - 5 \cdot 2) + 4 - 8 \\
 2(-7) + 4 - 8 \\
 -14 + 4 - 8 \\
 -10 - 8 \\
 \boxed{-18}
 \end{array}$$

2) Simplify

$$\begin{array}{r}
 3(2x - 4) - 3(x - 5) \\
 6x - 12 - 3x + 15 \\
 3x - 12 + 15 \\
 \boxed{3x + 3}
 \end{array}$$

3) Solve

$$\begin{array}{r}
 3x - 4 = 12x + 13 \\
 -12x \quad -12x \\
 -9x - 4 = 13 \\
 +4 \quad +4 \\
 -9x = 17 \\
 \underline{-9} \quad \underline{-9} \\
 x = \frac{-17}{9} \\
 x = 1.\bar{8}
 \end{array}$$



4) Graph the linear equation

$y = -\frac{1}{4}x + 3$

x	y
0	3
4	2
8	1

$y = -\frac{1}{4}(0) + 3$

$y = -\frac{1}{4}(4) + 3$

$y = -\frac{1}{4}(8) + 3$

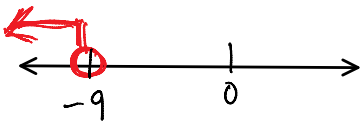
5) Solve and graph on a number line

$(4) \frac{2x+6}{4} < -3(4)$

$2x+6 < -12$   
 $\underline{-6} \quad \underline{-6}$

$\frac{2x}{2} < \frac{-18}{2}$

$x < -9$



6) Solve the system of linear equations

$-2(x + y = 4)$   
 $2x - 3y = 13$

$+ \begin{array}{r} -2x - 2y = -8 \\ 2x - 3y = 13 \\ \hline -5y = 5 \\ \underline{-5} \quad \underline{-5} \\ y = -1 \end{array}$

$y = -1$

$2x - 3y = 13$

$2x - 3(-1) = 13$

$2x + 3 = 13$

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

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

$x = 5$

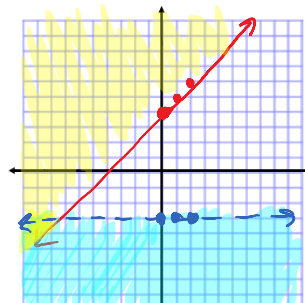
$(5, -1)$

7) Graph the system of linear inequalities

Solid  $y \geq x + 4$   
 $y < -3$

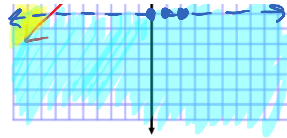
x	y
0	4
1	5
2	6

x	y
0	-3
1	-3
2	-3



$$\begin{array}{r} 1 \mid 5 \\ 2 \mid 6 \end{array}$$

$$\begin{array}{r} 1 \mid -3 \\ 2 \mid -3 \end{array}$$



8) Find the zeroes of the quadratic function

$$0 = x^2 - 10x + 24$$

$$\begin{array}{l} a=1 \\ b=-10 \\ c=24 \end{array}$$

$$\begin{array}{c} a \cdot c \\ 24 \\ -6 \quad -4 \\ -10 \\ b \end{array}$$

$$0 = (x-6)(x-4)$$

$$x-6=0 \text{ and } x-4=0$$

$$\boxed{x=6 \text{ and } x=4}$$

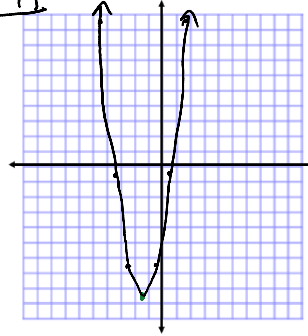
9) Graph the quadratic function

$$y = 2x^2 + 6x - 4$$

$$x = \frac{-b}{2a} \rightarrow x = \frac{-6}{2(2)} \rightarrow x = \frac{-6}{4} \rightarrow x = -1.5$$

$$y = 2(-1.5)^2 + 6(-1.5) - 4 \rightarrow y = 4.5 - 9 - 4$$

$$y = -4.5 - 4 \rightarrow y = -8.5$$



$$\begin{array}{l} 1(a) = 2 \\ 3(a) = 6 \\ 5(a) = 10 \end{array}$$

10) Simplify the radical

$$\sqrt{108} = \sqrt{36 \cdot 3} = \sqrt{36} \cdot \sqrt{3} = \boxed{6\sqrt{3}}$$