

1.) Solve the inequality and name three solutions:

$$8r - (5r + 4) > -31$$

$$\begin{array}{r} 8r - 5r - 4 > -31 \\ 3r - 4 > -31 \\ +4 \quad +4 \\ \hline 3r > -27 \\ \frac{3r}{3} > \frac{-27}{3} \end{array}$$

$r > -9$
 $1, 2, -8$

2.) Solve the inequality:

$$-5(3x + 4) - 10x > 12(x - 9) + 3x$$

$$\begin{array}{r} -15x - 20 - 10x > 12x - 108 + 3x \\ -25x - 20 > 15x - 108 \\ +25x \quad +25x \\ \hline -20 > 40x - 108 \\ +108 \quad +108 \\ \hline 88 > 40x \\ \frac{88}{40} > \frac{40x}{40} \end{array}$$

$2.2 > x$
 $x < 2.2$

3.) Convert the inequality from standard form to slope intercept form:

$$x - 3y < 6$$

$$\begin{array}{r} -x - 3y < -x + 6 \\ \hline -3y < -x + 6 \\ \div -3 \quad \div -3 \quad \div -3 \\ \hline y > \frac{1}{3}x - 2 \end{array}$$

Graph the inequalities. Write three possible solutions.

