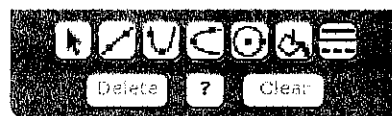
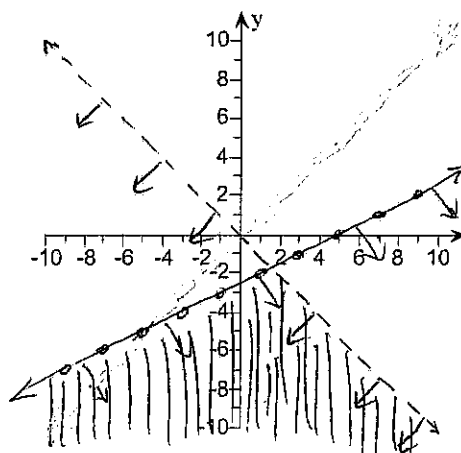


Math 45

4.6.33 Graph the system of linear inequalities.

$$\begin{cases} x \geq 5y + 2 \\ x + y < 0 \end{cases}$$

Use the graphing tool to graph the system.



To graph $x \geq 5y + 2$

$$x - 2 = 5y$$

$$5y = x - 2$$

$$y = \frac{1}{5}x - \frac{2}{5} \leftarrow \text{cannot be graphed on MathXL.}$$

Use techniques from class today:

$$5y = x - 2$$

choose x so that $x - 2$ is a multiple of 5.

$$x = 7$$

$$5y = 7 - 2$$

$$5y = 5$$

$$y = 1$$

$(7, 1)$ plot this, then use slope $\frac{1}{5}$.

Test $(0, 0)$

$$0 \geq 5(0) + 2$$

$$0 \geq 2$$

false. $(0, 0)$ is not a solution. Shade down

$$x + y < 0$$

Graph $y = -x$ with dotted line.

$(0, 0)$ is on this line. Choose a different test point.

$(1, 0)$ is not on the line. Test $(1, 0)$

$$1 + 0 < 0$$

$1 < 0$ false. $(1, 0)$ is not a solution. shade down.

Shade overlapping shaded areas.