MRS. WILSON

6

$\begin{cases} 5x + 5y = 25 \\ 10x + 6y = 14 \end{cases}$ $\cdot -2$

$-10x - 10y = -50$

$-4y = -36$

$\frac{-4y}{-4} = \frac{-36}{-4}$

$y = 9$

Subst. $y = 9$ in (1)

$5x + 5(9) = 25$

$5x + 45 = 25$

$-45 \quad -45$

$\frac{5x}{5} = \frac{-20}{5}$

$x = -4$

$(-4, 9)$

$\begin{cases} -8x + 3y = -14 \\ -16x - 10y = 4 \end{cases}$ $\cdot -2$

$8x - 6y = 28$

$-16y = 32$

$\frac{-16y}{-16} = \frac{32}{-16}$

$y = -2$

Subst $y = -2$ in (1)

$-8x + 3(-2) = -14$

$-8x - 6 = -14$

$+6 \quad +6$

$\frac{-8x}{-8} = \frac{-8}{-8}$

$x = 1$

$(1, -2)$

7

$\begin{cases} 5x - 3y = -1 \\ 10x - 6y = -16 \end{cases}$ $\cdot -2$

$-10x + 6y = 2$

$0 = -14$

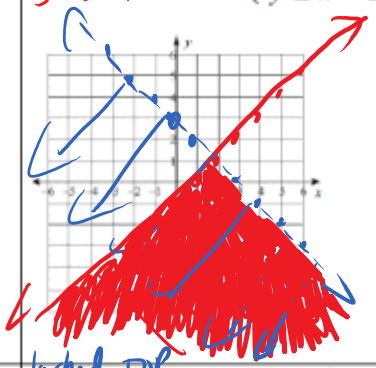
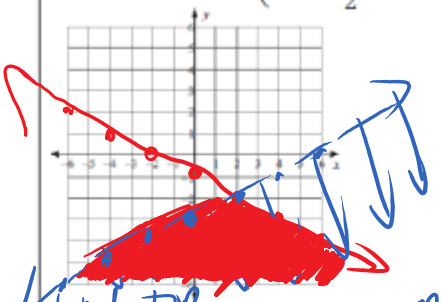
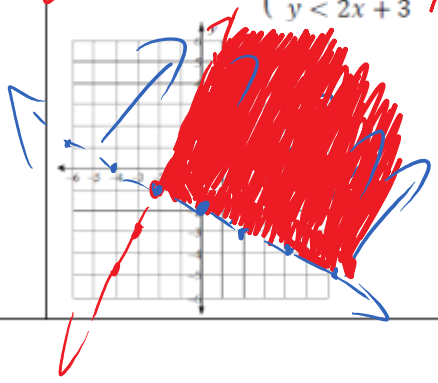
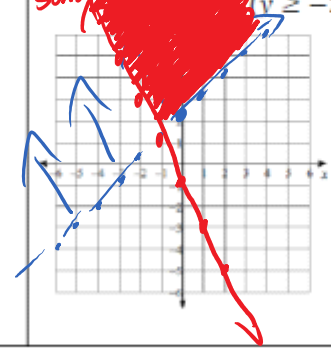
NO solution

$\begin{cases} 2x - 6y = -2 \\ 4x - 12y = 4 \end{cases}$ $\cdot -2$

$-4x + 12y = 4$

$0 = 8$

NO SOLUTION

8	Use the calculator to find the solutions $\begin{cases} y = x^2 - 3x \\ y = 2x - 4 \end{cases}$ Equate two equations $y = y$ $x^2 - 3x = 2x - 4$ $-2x \quad -2x$ $x^2 - 5x = -4$ $+4 \quad +4$ $x^2 - 5x + 4 = 0$ $-4 \quad 4 \quad -1$ $x \quad -5 \quad x$ $x - 4 = 0$ $+4 \quad +4$ $x = 4$ $x - 1 = 0$ $+1 \quad +1$ $x = 1$ $y = 2(4) - 4$ $y = 8 - 4 = 4$ $(4, 4)$ $y = 2(1) - 4$ $y = 2 - 4 = -2$ $(1, -2)$	$\begin{cases} y = 3x \\ y = x^2 + 5x - 3 \end{cases}$ $y = y$ $x^2 + 5x - 3 = 3x$ $-3x \quad -3$ $x^2 + 2x - 3 = 0$ $3 \quad -3 \quad -1$ $x \quad 2 \quad x$ $x + 3 = 0$ $-3 \quad -3$ $x = -3$ $x - 1 = 0$ $+1 \quad +1$ $x = 1$ $y = 3(-3)$ $y = -9$ $(-3, 9)$ $y = 3(1)$ $y = 3$ $(1, 3$
9	dashed, bottom solid, bottom $\begin{cases} y < -x + 3 \\ y \le x - 1 \end{cases}$ $m = -1/1$ b 3 $m = 1/1$ $b = -1$ 	dashed, bottom solid, bottom $\begin{cases} y < \frac{1}{2}x - 3 \\ y \le -\frac{1}{2}x - 1 \end{cases}$ $m = 1/2$ $b = -3$ $m = -1/2$ $b = -1$ 
10	dashed, TOP dashed, bottom $\begin{cases} y > -\frac{1}{2}x - 2 \\ y < 2x + 3 \end{cases}$ $m = -1/2$ $b = -2$ $m = 2/1$ $b = 3$ 	dashed, TOP solid $\begin{cases} y > x + 2 \\ y \ge -2x - 1 \end{cases}$ $m = 1/1$ $b = 2$ $m = -2/1$ $b = -1$