

6.6 Homework pg. 341-346 # 1, 2, 5, 7, 11, 13

1) $G = 2x + 5y$

$(0, 5) = 2(0) + 5(5) = 25$

$(8, 5) = 2(8) + 5(5) = 41 \rightarrow \text{Max}$

$(0, 0) = 2(0) + 5(0) = 0 \rightarrow \text{Min}$

$(3, 0) = 2(3) + 5(0) =$

2) $x \geq 0, y \leq 0$

$3y \geq -2x + 3 \rightarrow y = -\frac{2}{3}x + 1$

$y \geq 2x - 7 \rightarrow y = 2x - 7$

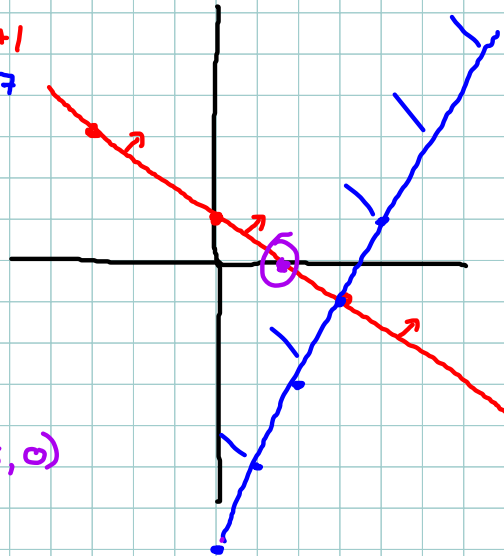
$D = -5x + 3y$

$3(0) = -2x + 3$

$-3 = -2x$

$\frac{3}{2} = x \text{ or } 1.5$

Answer $(1.5, 0)$



3) $x \geq 0$

$y \geq 0$

$x + y \leq 5 \rightarrow y = -x + 5$

$2x + y \geq 5 \rightarrow y = -2x + 5$

Objective:

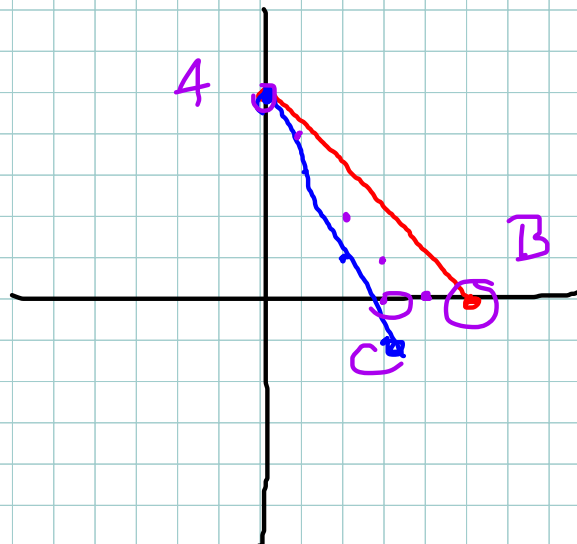
$K = -x + 2y$

$A \Rightarrow K = -0 + 2(5) = 10 \checkmark$

$B \rightarrow K = -5$

$C \rightarrow K = -3$

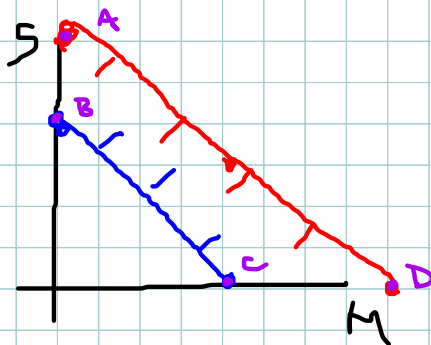
Answer $(0, 5)$



7) $m \geq 0$
 $s \geq 0$
 $3m + 4s \leq 24 \rightarrow 4y = -3x + 24$
 $m + s \geq 4 \rightarrow y = -x + 4$

$m = x \quad s = y$

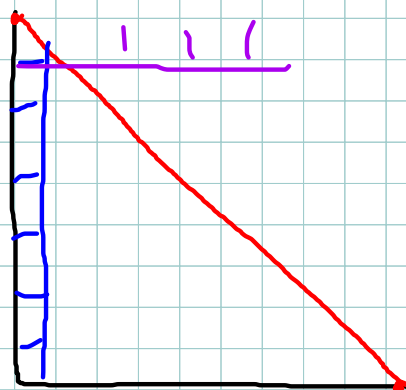
$T = 1.5m + 4.2s$
 $A = 1.5(0) + 4.2(6) = 25.2 \checkmark$
 $B = 1.5(0) + 4.2(4) = 16.8$
 $C = 1.5(4) + 4.2(0) = 6$
 $D = 1.5(8) + 4.2(0) = 12$



Answer (0,6)

11) Let $x =$ business
 Let $y =$ Economy

$x + y \leq 145 \rightarrow y = -x + 145$
 $x \leq 8 \rightarrow x = 8$
 $y \geq 130 \rightarrow y = 130$



$R = 615x + 245y$

$y = -(8) + 145$
 $y = 137$

Answer (8, 137)

$R = 615(8) + 245(137)$

13) Let $x =$ Job 1 hours
 Let $y =$ Job 2 hours

$x + y \leq 32 \rightarrow y = -x + 32$

$x \geq 12$

$y \leq 24$

$R = 8.75x + 9.00y$

$12 + y = 32$
 $y = 20$

Answer (12, 20)

$R = 8.75(12) + 9.00(20)$

$= \$285$

