

5.2.4 #52-54, 57-60

↳ #58 WU

↳ #55 CHALLENGE (instead of #52)

ME 52.8

5-53  $y = \frac{2}{5}x - 5$

$$\begin{array}{r} 3x + 2y = 9 \\ -3x \quad \quad -3x \end{array}$$

$$\frac{2y}{2} = \frac{-3x + 9}{2}$$

$y = \frac{-3x + 9}{2}$

$$10 \left( \frac{2}{5}x - 5 = -\frac{3}{2}x + \frac{9}{2} \right)$$

$$10 \left( \frac{2}{5}x \right) - 10(5) = 10 \left( -\frac{3}{2}x \right) + 10 \left( \frac{9}{2} \right)$$

$$2(2x) - 50 = 5(-3x) + 5(9)$$

$$4x - 50 = -15x + 45$$

$$\begin{array}{r} +15x \quad \quad +15x \\ \hline 19x - 50 = 45 \end{array}$$

$$\begin{array}{r} +50 \quad +50 \\ \hline 19x = 95 \end{array}$$

$$\begin{array}{r} 19 \quad 19 \\ \hline 1x = 5 \end{array}$$

$$\begin{array}{r} 19 \quad 19 \\ \hline 1x = 5 \end{array}$$

$$1x = 5$$

$$1x = 5$$

$$3(5) + 2y = 9$$

$$15 + 2y = 9$$

$$\begin{array}{r} -15 \quad -15 \\ \hline 2y = -6 \end{array}$$

$$\frac{2y}{2} = \frac{-6}{2}$$

$$y = -3$$

$$y = -3$$

Pol (5, -3)

5-54

Case 1:

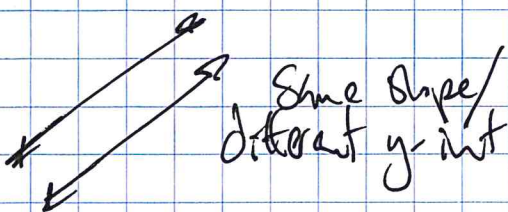
$$3x + 2y = 2$$

$$3x + 2y = 8$$

$$3x + 2y = 3x + 2y$$

$$2 \neq 8$$

No Solution



Case 2:

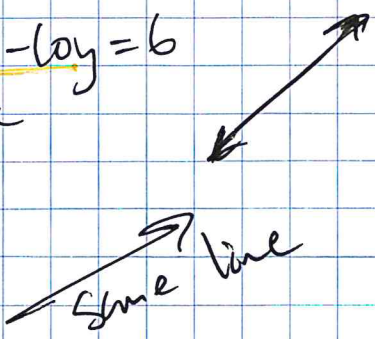
$$2(2x - 5y = 3) = 4x - 10y = 6$$

$$4x - 10y = 6$$

$$4x - 10y = 4x - 10y$$

$$6 = 6$$

Infinite Solutions



**5-52** EVM

x =  
y =

Plant A:  
Plant B:

0.15, 1.8, 0.2 # 4, 0.2  
0.15, 0.2 # 4

$$\begin{aligned} 1.8x + 0.2y &= 1.8 \\ 0.15x + 0.2y &= 0.2 \end{aligned}$$

$$\begin{aligned} 1.8x + 0.2y &= 1.8 \\ -0.05x &= -1.6 \end{aligned}$$

$$x = \frac{1.6}{0.05} = 32$$

$$y = \frac{1.8 - 1.8(32)}{0.2} = \frac{1.8 - 57.6}{0.2} = \frac{-55.8}{0.2} = -279$$

$$\left( \frac{1.8}{0.15}x + \frac{0.2}{0.15}y = \frac{1.8}{0.15} \right) \cdot 0.15$$

$$\begin{aligned} 1.8x + 0.2y &= 1.8 \\ 0.15x + 0.2y &= 0.2 \\ \hline -1.65x &= -1.6 \end{aligned}$$

$$x = \frac{1.6}{1.65} = \frac{16}{16.5}$$

$$\left( \frac{1.8}{0.15}x + \frac{0.2}{0.15}y = \frac{1.8}{0.15} \right) \cdot 0.15 - \left( \frac{0.15}{0.15}x + \frac{0.2}{0.15}y = \frac{0.2}{0.15} \right) \cdot 0.15$$

$$\begin{aligned} 1.8x + 0.2y &= 1.8 \\ 0.15x + 0.2y &= 0.2 \\ \hline 1.65x &= 1.6 \end{aligned}$$

$$x = \frac{1.6}{1.65} = \frac{16}{16.5}$$

$$y = \frac{1.8 - 1.8x}{0.2}$$

$$\boxed{(1.6 - 1.65x) \cdot 0.15}$$

Lead out

Lead out

