68.

$\begin{cases} .15x - .35y = -.5 \quad \times 100 \\ -.12x + .25y = .1 \quad \times 100 \end{cases}$

$\begin{cases} 15x - 35y = -50 \quad \times 4 \\ -12x + 25y = 10 \quad \times 5 \end{cases}$

$\begin{cases} 60x - 140y = -200 \\ -60x + 125y = 50 \end{cases}$

$\frac{-15y}{-15} = \frac{-150}{-15}$

$y = 10$

$-12x + 25(10) = 10$

$-12x + 250 = 10$

$-12x = -240$

$\frac{-12}{-12} \quad \frac{-240}{-12}$

$x = 20$

$(20, 10)$

70.

$\begin{cases} 12b - 13m = 2 \\ -6b + 6.5m = -2 \quad \times 2 \end{cases}$

$12b - 13m = 2$

$-12b + 13m = -4$

$0 = -2$ False

$0 = 0$ True

No solutions

Infinite sol.

72.

$\begin{cases} 6x - 6y = 25 \\ 3y = 11 \end{cases}$

$\frac{3y}{3} = \frac{11}{3}$

$y = \frac{11}{3}$

$6x - 6\left(\frac{11}{3}\right) = 25$

$6x - 22 = 25$

$+22 \quad +22$

$\frac{6x}{6} = \frac{47}{6}$

$x = \frac{47}{6}$

$\left(\frac{47}{6}, \frac{11}{3}\right)$

0-5 +

6-10 ✓

11↑.

4.1 Word problems

Geometry Problem

2 angles are supplementary. One is 12 more than 3 times the second. Find the measure of each angle.

$x + y = 180$

$x = 12 + 3y$

$12 + 3y + y = 180$

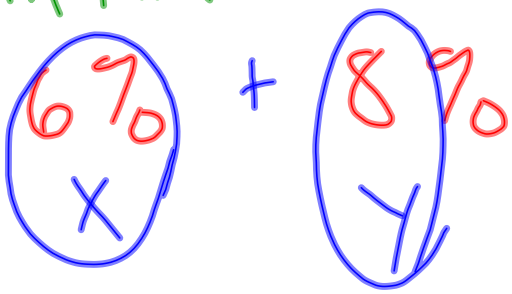
$y = 42°$

$x = 12 + 3(42)$

$x = 138°$

Mixture Problems

A total of $12,000 was invested at 6% & 8% interest. If the interest earned was $880, how much was invested at each rate.



$$\begin{cases} .06x + .08y = 880 \\ (x + y = 12{,}000)(-.06) \end{cases}$$

$$\begin{cases} .06x + .08y = 880 \\ -.06x - .06y = -720 \end{cases}$$

$$.02y = 160$$

$$\frac{.02y}{.02} = \frac{160}{.02}$$

$y = \$8{,}000$

$x = \$4{,}000$

HW: read example #11
on p. 243

p. 246 97-108