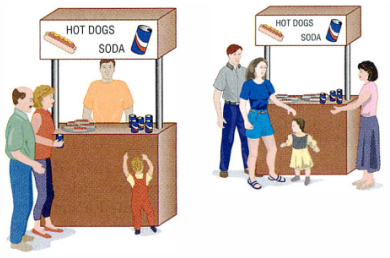
MATH 134A Review: System of Linear Equations

1. One group of people purchased 10 hot dogs and 5 soft drinks at a cost of \$35.00. A second group of people bought 7 hot dogs and 4 soft drinks at a cost of \$25.25. What is the cost of a single hot dog? A single soft drink?

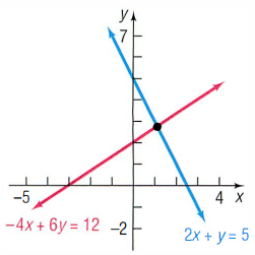


Solution:

$$\begin{cases} 10h + 5s = 35 \\ 7h + 4s = 25.25 \end{cases}$$

A single hot dog costs \$2.75 and a single soft drink costs \$1.50.

2. Find the point (x_0, y_0) where the lines $2x+y = 5$ and $-4x + 6y = 12$ intersect.



Solution:

$$\begin{cases} 2x + y = 5 \\ -4x + 6y = 12 \end{cases}$$

$(x_0, y_0) = (\frac{9}{8}, \frac{11}{4})$.