

## Section 2-2 Linear Equations and Models

### Example

Solve the equation

$$5x - 8 = 2x + 1$$

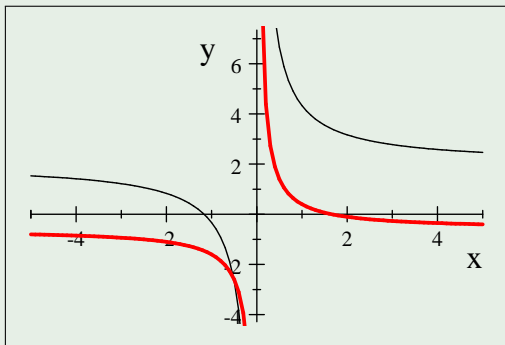
Solution is: 3

## Example

Solve the equation

$$\frac{7}{3x} + 2 = \frac{1}{x} - \frac{3}{5}$$

Solution is:  $-\frac{20}{39}$



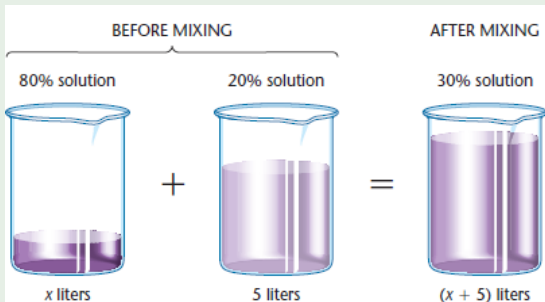
## Example

Solve

$$\frac{2x}{x-3} = 7 + \frac{6}{x-3}$$

## Example

How many liters of a mixture containing 80% alcohol should be added to 5 liters of a 20% solution to yield a 30% solution?



$$\begin{pmatrix} \text{Amount of} \\ \text{alcohol in} \\ \text{80\% solution} \end{pmatrix} + \begin{pmatrix} \text{Amount of} \\ \text{alcohol in} \\ \text{20\% solution} \end{pmatrix} = \begin{pmatrix} \text{Amount of} \\ \text{alcohol in} \\ \text{30\% mixture} \end{pmatrix}$$
$$0.8x + 0.2(5) = 0.3(x + 5)$$