



## 4-5 Reteach to Build Understanding

### Solving Rational Equations

1. Follow the example and the directions to solve for the value of  $x$ .

Example:	Directions:	Try it!
$\frac{2}{x+3} = 6$	Determine the LCM.	$\frac{3}{x+4} = 5$
$(x+3)\frac{2}{x+3} = 6(x+3)$	Multiply both sides by the LCM.	$\frac{3}{x+4} = 5$
$2 = 6x + 18$	Distribute.	$3 = \underline{\hspace{2cm}}$
$6x = -16$	Simplify.	$5x = \underline{\hspace{2cm}}$
$x = \frac{-8}{3}$	Solve.	$x = \underline{\hspace{2cm}}$

2. Kathryn and Jason sold all of the raffle tickets in 4 hours. Kathryn sold 4 times as many tickets as Jason. How long would it take Kathryn at that rate to sell the tickets by herself?

$$\frac{1}{x} + \frac{4}{x} = \frac{1}{4}$$

Every hour, Jason sells  $\frac{1}{x}$  raffle tickets. Kathryn sells 4 times more than Jason,  $\frac{4}{x}$ . Together, on average, they sold  $\frac{1}{4}$  of the total tickets each hour.

$$\underline{\hspace{1cm}}x\left(\frac{1}{x} + \frac{4}{x}\right) = 4x(\underline{\hspace{1cm}}) \quad \text{Multiply both sides by the LCD.}$$

$$x = 4 \underline{\hspace{2cm}} \quad \text{Simplify.}$$

$$x = \underline{\hspace{2cm}}$$

Kathryn sells the tickets 4 times as fast. She could sell the  $\underline{\hspace{2cm}}$  tickets in  $\underline{\hspace{2cm}}$  hours.

3. Malcolm determined that the solution to  $\frac{x^2}{x-4} = \frac{16}{x-4}$  is  $x = 4$ . He multiplied both sides by  $x - 4$ , which resulted in  $x^2 = 16$ . He concluded that the square root of 16 is 4. Therefore the answer must be  $\pm 4$ . Explain and correct his mistake.