

HW 3.11 p. 178 2 – 16 even

**REMOVE ALL BUT HOMEWORK &
WORKBOOK FROM DESK.**

YOU WILL NEED SOME SCRATCH PAPER.



Solve the equation. Check your solution.

$$2. \quad \frac{3}{x} = \frac{2}{x+4}$$

**Cross
Multiply**

$$(3)(x + 4) = 2x$$

Distribute

$$\begin{array}{r} 3x + 12 = 2x \\ -2x \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} x + 12 = 0 \\ -12 \quad -12 \\ \hline \end{array}$$

$$x = -12$$

$$4. \quad \frac{10}{x+2} = \frac{7}{x-4}$$

**Cross
Multiply**

$$(10)(x - 4) = (x + 2)(7)$$

Distribute

$$\begin{array}{r} 10x - 40 = 7x + 14 \\ -7x \quad -7x \\ \hline \end{array}$$

$$\begin{array}{r} 3x - 40 = 14 \\ +40 \quad +40 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{3x} = \underline{54} \\ 3 \quad 3 \end{array}$$

$$x = 18$$



Solve the equation. Check your solution.

6. ~~$\frac{8}{x+8} = \frac{x}{x+2}$~~

**Cross
Multiply**

$$(8)(x + 2) = (x + 8)(x)$$

$$8x + 16 = x^2 + 8x$$

$$0 = x^2 + 8x - 8x - 16$$

$$0 = x^2 - 16$$

$$0 = (x - 4)(x + 4)$$

$$x - 4 = 0$$

$$+4 \quad +4$$

$$x = 4$$

Distribute

**If you see x^2 , put everything
on one side**

**Find a binomial, look
for perfect square.**

$$x + 4 = 0$$

$$\underline{-4 \quad -4}$$

$$x = -4$$



Solve the equation. Check your solution.

8. ~~$\frac{2}{x} = \frac{x+1}{2x+5}$~~

**Cross
Multiply**

Distribute

**If you see x^2 , put everything
on one side**

$$(2)(2x + 5) = x(x + 1)$$

$$4x + 10 = x^2 + x$$

$$0 = x^2 + x - 4x - 10$$

$$0 = x^2 - 3x - 10$$

$$0 = (x - 5)(x + 2)$$

$$x - 2 = 0$$

$$\begin{array}{r} +2 \ +2 \\ \hline \end{array}$$

$$x = 2$$

$$x + 2 = 0$$

$$\begin{array}{r} -2 \ -2 \\ \hline \end{array}$$

$$x = -2$$



Find the LCD of the rational expressions in the equation.

10. $\frac{7x}{x-3} + 4 = \frac{x+1}{x-3}$

$x - 3$

12. $\frac{7}{x-2} + 1 = \frac{4}{x-3}$

$(x - 2)(x - 3)$



Solve the equation. Check your solution.

$$14. \quad \frac{3}{x+2} + 5 = \frac{4}{x+2}$$

$$\frac{3}{\cancel{(x+2)}} \cdot \cancel{(x+2)} + 5 \cdot (x+2) = \frac{4}{\cancel{(x+2)}} \cdot \cancel{(x+2)}$$

$$3 + 5(x+2) = 4$$

$$3 + 5x + 10 = 4$$

$$5x + 13 = 4$$

$$5x = -9$$

$$x = \frac{-9}{5}$$

