

# More Solving

\*remember you cannot divide by zero!

**ex1**  $\frac{5}{x+2} \Rightarrow x \neq -2$

**ex2**  $\frac{5}{x-1} + \frac{3}{x+4} \Rightarrow x \neq 1, -4$

**ex3**  $\frac{10x+3}{5x+6} = \frac{1}{2}$  *cross multiply!*

$$20x+6 = 5x+6$$

$$15x = 0$$

**X=0**

**ex4**  $\left( \frac{7}{x-3} + \frac{2x}{x+2} = 2 \right) (x-3)(x+2)$

$$7(x+2) + 2x(x-3) = 2(x-3)(x+2)$$

$$7x+14 + 2x^2 - 6x = 2(x^2 - x - 6)$$

$$x+14 + 2x^2 = 2x^2 - 2x - 12$$

$$x+14 = -2x-12$$

$$3x = -26$$

**X = -26/3**

**ex5**  $\left( \frac{1}{x-2} = \frac{3}{x+2} - \frac{6x}{x^2-4} \right) (x-2)(x+2)$

$$1(x+2) = 3(x-2) - 6x$$

$$x+2 = 3x - 6 - 6x$$

$$x+2 = -3x - 6$$

$$4x = -8$$

$$x = -2 \rightarrow \text{extraneous solution!}$$

an extraneous solution is a # that makes the denom. zero  
 ex  $\frac{1}{x-5}$   
 x=5 is an extraneous solution.

**ex6**  $\left( \frac{1}{x-2} + \frac{3}{x+3} = \frac{4}{x^2+x-6} \right) (x+3)(x-2)$

$$1(x+3) + 3(x-2) = 4$$

$$x+3 + 3x - 6 = 4$$

$$4x - 3 = 4$$

$$4x = 7$$

**X = 7/4**