Finding zeros (solutions) from factors.

white boards

Find the zeros of each factor.

1. $(x + 9)(x - 7) = 0$

$-9 \quad +7$

2. $(3x - 8)(x + 23) = 0$

$\frac{8}{3}, -23$

3. $(2x + 11)(5x - 9) = 0$

$\frac{-11}{2} \quad \frac{9}{5}$

Find the zeros of each factor.

4. $8x(7x - 10) = 0$

$x = \frac{10}{7}$ & 0

5. $-2x(6x + 1)(4x - 3) = 0$

$x = 0$ & $\frac{-1}{6}$ & $\frac{3}{4}$

6. $5(x + 1)(9x - 4)(5x + 13) = 0$

$x = -1, \frac{4}{9}, \frac{-13}{5}$

$(x-6)(2x+7)(x-6)(x+3)(x-6)(11x+8) = 0$

$x = 6, -7/2, -3, \frac{-8}{11}$

Sec 10-5: Factoring to Solve Quadratic Equations

1. Make sure the Quadratic Equation is in Standard Form
   $0 = ax^2 + bx + c$
2. Factor the Quadratic
3. Find the zeros of each factor

Solve each equation by factoring.

$x^2 - 8 = 2x$

$-2x \quad -2x$

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

$-4 \times +2$ (-8, -2)

$(x-4)(x+2) = 0$

$x = 4, -2$

GCF

$8x^2 - 28x = 0$

$4x(2x-7) = 0$

$x = 0, 7/2$

Solve each equation by factoring.

$6x^2 + 5x - 21 = 0$

$(2x-3)(3x+7) = 0$

$x = \frac{3}{2}, -\frac{7}{3}$

-126, $+14 \times -9$, $+5$

	$2x$	-3
$3x$	$6x^2$	$-9x$
$+7$	$+14x$	-21

Solve each equation by factoring.

$4x^3 + 4x^2 = 120x$

$4x^3 + 4x^2 - 120x = 0$

$4x(x^2 + x - 30)$

$4x(x+6)(x-5) = 0$

$x = 0, -6, 5$

Solve each equation by factoring.

$9w^2 - 49 = 0$

$(3w+7)(3w-7) = 0$

$w = -\frac{7}{3}, \frac{7}{3}$ OR $w = \pm\frac{7}{3}$

Solve each equation by factoring.

$3x^2 - 11 = 2x^2 - 4x + 1$

$-2x^2 \qquad -2x^2$

$x^2 - 11 = -4x + 1$

$+4x \qquad +4x$

$x^2 + 4x - 11 = 1$

$-1 \quad -1$

$x^2 + 4x - 12 = 0$

$(x+6)(x-2) = 0$

$x = -6, 2$