

# Quadratics ( $x^2$ )

Grade 9-  $\frac{4x^2 - 1}{5} = 7 \times 5$

$$4x^2 - 1 = 35 + 1$$

$$x^2 = 9 \quad \frac{4x^2}{4} = \frac{36}{4}$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = \pm 3$$

## Gr 10 Factor Assignment #5

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

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

$$x = -2 \text{ or } +6$$

$$x^2 + 2x - 48 = 0$$

$x + 8 = 0$   
 $x = -8$

$$(x + 8)(x - 6) = 0$$

$x - 6 = 0$   
 $x = +6$

$$x = -8 \text{ or } +6$$

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

$$x(x - 10) = 0$$

$$x = 0 \text{ or } +10$$

#4  $3x^2 + 16x + 5 = 0$

$$3x + 1 = 0 \quad (3x + 1)(x + 5) = 0$$

$$3x = -1 \quad x = -\frac{1}{3} \text{ or } -5$$
$$x = -\frac{1}{3}$$

Mult  $8 \times 6 = 48$

Magic Numbers  $\begin{matrix} 48:1 \\ 24:2 \\ 12:4 \\ 6:3 \end{matrix}$

$$\begin{matrix} 8x^2 & -13x & -6 & = & 0 \\ \hline 8x & 1x & & & \\ \hline 4x & 2x & & & \\ \hline & 3x & 2 & & \\ \hline & 6x & 1 & & \end{matrix}$$
$$(8x + 3)(x - 2) = 0 \quad (8x^2 - 16x + 3x - 6) = 0$$
$$8x(x - 2) + 3(x - 2)$$
$$(8x + 3)(x - 2) = 0$$

Last example:

$$10x^2 + 7x - 12 = 0$$

Factors  $10x, 1x$

Combo  $5x, 2x$

Brackets

$$5x - 4 = 0$$

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

$$x = \frac{+4}{5} \text{ or } -\frac{3}{2}$$

$$10 \times 12 = 120$$

1	120
2	60
3	40
4	30

10	12
5	24
6	20
-8	+15