

$$2. \quad 4x^2 - 64 = 0$$

$$\begin{array}{l}
 4x^2 = 64 \\
 x^2 = \frac{64}{4} \\
 x^2 = 16 \\
 x = \pm \sqrt{16} \\
 x = \pm 4
 \end{array}
 \left| \begin{array}{l}
 4(x^2 - 16) = 0 \\
 4(x+4)(x-4) = 0 \\
 \left. \begin{array}{l} x+4=0 \\ x=-4 \end{array} \right\} \begin{array}{l} x-4=0 \\ x=4 \end{array}
 \end{array}
 \right| \begin{array}{l}
 (2x+8)(2x-8) = 0 \\
 \left. \begin{array}{l} 2x+8=0 \\ 2x=-8 \\ x=-4 \end{array} \right\} \begin{array}{l} 2x-8=0 \\ 2x=8 \\ x=4 \end{array}
 \end{array}$$

$$3) \quad 3x^2 - 2x - 5 = 0$$

$ax^2 + bx + c \rightarrow$ decomposition

$$\begin{array}{l}
 \text{add} \Rightarrow -2 \\
 \text{multiply} \Rightarrow -15 \\
 \hline
 -5 \quad \& \quad 3
 \end{array}$$

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

$$3x(x+1) - 5(x+1) = 0$$

$$(3x-5)(x+1) = 0$$

$$\begin{array}{l}
 3x-5=0 \\
 3x=5 \\
 x=\frac{5}{3}
 \end{array}
 \left\{ \begin{array}{l}
 x+1=0 \\
 x=-1
 \end{array} \right.$$

Try these

$$1) \quad x^2 + 5x + 6 = 0$$

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

$$\left. \begin{array}{l} x+2=0 \\ x=-2 \end{array} \right\} \left. \begin{array}{l} x+3=0 \\ x=-3 \end{array} \right.$$

$$4) \quad 9x^2 - 25 = 0$$

$$2) \quad 3x^2 - 12 = 0$$

$$3x^2 = 12 \quad x = \pm 2$$

$$x^2 = 4$$

$$5) \quad 5x^2 + 9x - 2 = 0$$

$$3) \quad 2x^2 + 5x - 12 = 0$$

add 5
mult = -24

$$8 \quad -3$$

$$(2x^2 + 8x)(-3x - 12) = 0$$

$$2x(x+4) \cdot -3(x+4) = 0$$

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

$$x = \frac{3}{2} \quad x = -4$$