

$$x(x+1) - 5(x+1)$$

$$(x-5)(x+1)$$

$$2x^2 + 5x + 2 = 0$$

$$2 \cdot 2 = 4$$

$$4 + 1 = 5$$

We need two numbers that multiply to 4 and add up to 5.

$$2x^2 + 4x + 1x + 2 = 0$$

$$2x^2 + 4x + 1x + 2 = 0$$

$$2x(x+2) + 1(x+2) = 0$$

$$(2x+1)(x+2) = 0$$

$$2x+1=0$$

$$-1 = -1$$

$$\frac{2x}{2} = \frac{-1}{2}$$

$$x = -\frac{1}{2}$$

$$x+2=0$$

$$-2 = -2$$

$$x = -2$$

$$x = -\frac{1}{2}, \quad x = -2$$



$$7x^2 + 16x + 4 = 0$$

$$7 \cdot 4 = 28$$

$$1 \cdot 28 = 28 \rightarrow 28 + 1 = 29 \text{ (NAH)}$$

$$2 \cdot 14 = 28 \rightarrow 2 + 14 = 16$$

$$\begin{array}{c} \wedge \\ 28 \div 2 \end{array}$$

$$7x^2 + 14x + 2x + 4 = 0$$

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

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

$$7x + 2 = 0$$

$$-2 = -2$$

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

$$\boxed{x = -\frac{2}{7}}$$

$$x + 2 = 0$$

$$-2 = -2$$

$$\boxed{x = -2}$$

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



$$6x^2 - 17x + 12 = 0$$

$$6 \cdot 12 = 72 \quad - \frac{72}{8} = 9 \rightarrow -9 + -8 = -17$$

$$6x^2 - 9x - 8x + 12 = 0$$

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

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

$$3x - 4 = 0$$

$$+4 \quad +4$$

$$\frac{3x}{3} = \frac{4}{3}$$

$$x = \frac{4}{3}$$

$$2x - 3 = 0$$

$$+3 = +3$$

$$\frac{2x}{2} = \frac{3}{2}$$

$$x = \frac{3}{2}$$

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