1/28/13 Solve by factoring Again!

The most important step for these problems is to move everything over to the left side so you can see how to factor.

1 $7x^2 = 56x$

$-56x \quad -56x$

$7x^2 - 56x = 0$

$\frac{7x^2}{7x} - \frac{56x}{7x} = 0$

$7x(1x - 8) = 0$

$\frac{7x}{7} = \frac{0}{7}$ $\quad x = 8$

$x = 0$

2 $3x^2 = -10x$

$+10x \quad +10x$

$3x^2 + 10x = 0$

$\frac{3x^2}{x} + \frac{10x}{x} = 0$

$x(3x + 10) = 0$

$x = 0$

$3x + 10 = 0$

$-10 \quad -10$

$\frac{3x}{3} = \frac{-10}{3}$

$x = -\frac{10}{3}$

3 $x^2 + 12x = -11$

$+11 \quad +11$

$x^2 + 12x + 11 = 0$

11, 12; $11x$, $1x$

$(x + 11)(x + 1) = 0$

$x = -11, -1$

4 $6x^2 + 13x = -6$

$+6 \quad +6$

$6x^2 + 13x + 6 = 0$

36, $9x$, $4x$, 13; $\div 3$, $\div 3$, $\div 2$, $\div 2$

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

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

$2x + 3 = 0$ $\quad 3x + 2 = 0$

$-3 \quad -3$ $\quad -2 \quad -2$

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

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

5 $36x^2 = 9$

$-9 \quad -9$

$36x^2 - 9 = 0$

$(6x)(6x)$ $\quad (3)(3)$

$(6x + 3)(6x - 3) = 0$

$6x + 3 = 0$ $\quad 6x - 3 = 0$

$-3 \quad -3$ $\quad +3 \quad +3$

$\frac{6x}{6} = \frac{-3}{6}$ $\quad \frac{6x}{6} = \frac{3}{6}$

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