Solve by FACTORING

1. Make sure the equation is set equal to 0. (move terms across the equal sign (adding or subtracting) to make the leading coefficient positive)
2. Factor the polynomial
   * Refer to Factoring flow chart *
3. Solve.
   * Set factor = to zero & solve *

Solve.

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

$x+3=0$ $\quad 2x-4=0$

$-3 \quad -3 \qquad +4 \quad +4$

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

$x=2$

2) $r(r-6)=0$

$r=0$ $\quad r=6$

3) $a^2-24a=0$

$a(a-24)=0$

$a=0$ $\quad a=24$

4) $x^2+12=7x$

$-7x \quad -7x$

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

Factor

$(a-3)(a-4)=0$

$a=3$ $\quad a=4$

12, -3, -4, -7

5) $2x^2+6x=-4$

$+4 \quad +4$

$2x^2+6x+4=0$

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

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

$a=-2$ $\quad a=-1$

2, 2, 1, 3

6) $n^2-1=0$

$(n-1)(n+1)=0$

$n=1$ $\quad n=-1$

7) $6x^2+5=-17x$

$+17x \quad +17x$

$6x^2+17x+5=0$

$(2x+5)(3x+1)=0$

$2x+5=0 \qquad 3x+1=0$

$\frac{2x}{2}=\frac{-5}{2} \qquad 3x=-1$

$x=\frac{-5}{2} \qquad x=-1/3$

30, 15, 2, 17

8) $3x^2=75$

$-75 \quad -75$

$3x^2-75=0$

$3(x^2-25)=0$

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

$x=5$ $\quad x=-5$