Solving Equations Using Factoring

1. Rewrite equation in standard form (one member equals 0).
2. Factor completely.
3. Set each factor equal to 0; then solve.
4. Check results in original equation.

$x^2 - 7x + 12 = 0$
$(x - 4)(x - 3) = 0$
$x - 4 = 0$ or $x - 3 = 0$
$x = 4$ $\quad$ $x = 3$
$x = 3, 4$

$v^3 = 10v - 3v^2$
$v^3 + 3v^2 - 10v = 0$
$v(v^2 + 3v - 10) = 0$
$v(v + 5)(v - 2) = 0$
$v = 0$ or $v + 5 = 0$ or $v - 2 = 0$
$v = -5$ $\quad$ $v = 2$
$v = -5, 0, 2$

1. $x^2 - 5x - 6 = 0$
2. $v^3 - 4v = 0$
3. $n^2 - 16n = 0$
4. $x^2 + 9 = 10x$
5. $6x^2 = 16x - 8$
6. $s^2 = 56s - s^3$
7. $3y^2 + 2y - 1 = 0$
8. $u^3 = 14u^2 + 32u$
9. $23p = 5p^2 + 24$
10. $x^2 - 3x - 10 = 0$
11. $y^2 = 49$
12. $y^2 = -7y - 10$
13. $x^2 = 8x$
14. $3x^2 - 2 = x^2 + 6$
15. $4y^2 = -4y - 1$
16. $5x^2 - 2x - 3 = 0$