

### Solving Quadratic Equations by Factoring

Solve each equation by factoring.

1)  $x^2 + 4x - 12 = 0$

$\boxed{\{-6, 2\}}$  ✓

$(x+6)(x-2) = 0$

2)  $r^2 - 9 = 0$   $(r+3)(r-3) = 0$

$\boxed{\{3, -3\}}$  ✓

3)  $a^2 + 4a + 3 = 0$

$\boxed{\{-3, -1\}}$  ✓

$(a+3)(a+1)$

4)  $x^2 - 7x + 12 = 0$   $(x-4)(x-3) = 0$

$\boxed{\{4, 3\}}$  ✓

5)  $x^2 + 6x = 0$  GCF!

$\boxed{\{-6, 0\}}$  ✓

$x(x+6) = 0$

6)  $x^2 - 4 = 0$   $(x+2)(x-2) = 0$

$\boxed{\{-2, 2\}}$  ✓

7)  $3n^2 - 13n + 12 = 0$  Guess and Check!

$\boxed{\left\{\frac{4}{3}, 3\right\}}$

# 7-10

$(3n-4)(n-3)$

8)  $3m^2 - 29m + 40 = 0$   $(3m-5)(m-8)$

$\boxed{\left\{\frac{5}{3}, 8\right\}}$  ✓

9)  $5x^2 + 14x - 3 = 0$   $(5x-1)(x+3)$

$\boxed{\left\{\frac{1}{5}, -3\right\}}$  ✓

10)  $7x^2 - 55x - 8 = 0$   $(7x+1)(x-8)$

$\boxed{\left\{-\frac{1}{7}, 8\right\}}$  ✓

11)  $x^2 = 40 - 3x$   $x^2 + 3x - 40 = 0$

$\boxed{\{5, -8\}}$  ✓

$(x+8)(x-5) = 0$

12)  $m^2 = 5m$  GCF!  $m^2 - 5m = 0$

$\boxed{\{5, 0\}}$  ✓

$m(m-5) = 0$