

## Factoring Methods

Solve each equation by factoring completely.

1)  $v^2 + 2v = 15$

2)  $3x^2 + 33x = -90$

3)  $2n^2 = -4n$

4)  $x^2 - 5x = 24$

5)  $84a^3 - 224a^2 + 12a - 32$

6)  $49x^3 - 21x^2 - 21x + 9$

7)  $16x^2 + 40xy + 25y^2$

8)  $25x^2 - 4y^2$

9)  $25x^2 - 40xy + 16y^2$

10)  $4x^2 - 9$

11)  $648x^3 - 375y^3$

12)  $-27x^3 - y^3$

13)  $64m^3 - 27n^3$

14)  $125a^3 - 216b^3$

## Factoring Methods

Solve each equation by factoring completely.

1)  $v^2 + 2v = 15$

$$\{3, -5\}$$

2)  $3x^2 + 33x = -90$

$$\{-5, -6\}$$

3)  $2n^2 = -4n$

$$\{-2, 0\}$$

4)  $x^2 - 5x = 24$

$$\{8, -3\}$$

5)  $84a^3 - 224a^2 + 12a - 32$

$$4(7a^2 + 1)(3a - 8)$$

6)  $49x^3 - 21x^2 - 21x + 9$

$$(7x^2 - 3)(7x - 3)$$

7)  $16x^2 + 40xy + 25y^2$

$$(4x + 5y)^2$$

8)  $25x^2 - 4y^2$

$$(5x + 2y)(5x - 2y)$$

9)  $25x^2 - 40xy + 16y^2$

$$(5x - 4y)^2$$

10)  $4x^2 - 9$

$$(2x + 3)(2x - 3)$$

11)  $648x^3 - 375y^3$

$$3(6x - 5y)(36x^2 + 30xy + 25y^2)$$

12)  $-27x^3 - y^3$

$$(-3x - y)(9x^2 - 3xy + y^2)$$

13)  $64m^3 - 27n^3$

$$(4m - 3n)(16m^2 + 12mn + 9n^2)$$

14)  $125a^3 - 216b^3$

$$(5a - 6b)(25a^2 + 30ab + 36b^2)$$