

**Factor completely.**

(1)  $4x - 20$

(2)  $10x + 15yz$

(3)  $3y^2 - 9y$

(4)  $4x^3y^2 + 6x^2y^3$

(5)  $xy^2z^3 - 3x^2yz^2 + 5xy^3z^2$

(6)  $a^2b^3c^4 - a^3b^4c^5 + 2a^2b^4c^4$

(7)  $3y(2x + 5) - 4x(2x + 5)$

(8)  $3y(4 - y) + 6x^2(4 - y)$

$$(9) 2z^2(x + 3y) - 6x^2(x + 3y)$$

$$(10) 3x(3 - 2y) - 2xy(3 - 2y)$$

$$(11) 9 - a^2$$

$$(12) 16x^2 - 9y^2$$

$$(13) 225a^8 - 64b^2$$

$$(14) \left(\frac{c^6}{d^8}\right) - 121$$

$$(15) x^3y^4 - 25xd^6$$

**Answer Key**

(1)  $4(x - 5)$

(2)  $5(2 + 3yz)$

(3)  $3y(y - 3)$

(4)  $2x^2y^2(2x + 3y)$

(5)  $xyz(yz^2 - 3xz + 5yz)$

(6)  $a^2b^3c^4(1 - abc + 2b)$

(7)  $(3y - 4x)(2x + 5)$

(8)  $3(y + 2x^2)(4 - y)$

(9)  $2z(z - 3x)(x + 3y)$

(10)  $x(3 - 2y)(3 - 2y)$

(11)  $(3 - a)(3 + a)$

(12)  $(4x + 3y)(4x - 3y)$

(13)  $(15a^4 - 8b)(15a^4 + 8b)$

(14)  $\left(\frac{c^3}{d^4} - 11\right)\left(\frac{c^3}{d^4} + 11\right)$

(15)  $x(xy^2 - 5d^3)(xy^2 + 5d^3)$