— Algebra 2 Factoring Polynomials —
Answer Key

1 $b^2 - 16b + 64 = (b - 8)(b - 8)$ or $(b - 8)^2$

$\sqrt{b^2} = b$
$\sqrt{64} = 8$
$2(b)(8) = 16b$

2 $16x^2 + 40x + 25 = (4x + 5)(4x + 5)$ or $(4x + 5)^2$

$\sqrt{16x^2} = 4x$
$\sqrt{25} = 5$
$2(4x)(5) = 40x$

3 $a^2 + 6a + 9 = (a + 3)(a + 3)$ or $(a + 3)^2$

$\sqrt{a^2} = a$
$\sqrt{9} = 3$
$2(a)(3) = 6a$

4 $x^2 - 2x + 1 = (x - 1)(x - 1)$ or $(x - 1)^2$

$\sqrt{x^2} = x$
$\sqrt{1} = 1$
$2(x)(1) = 2x$

5 $x^2 + 20x^2 + 100 = (x^2 + 10)(x^2 + 10)$ or $(x^2 + 10)^2$

$\sqrt{x^4} = x^2$
$\sqrt{100} = 10$
$2(x^2)(10) = 20x^2$