

Section 5.2 Practice Master

1. Draw a diagram to represent each product.
 - a) $(x + 3)^2$
 - b) $(x + 2)^2$
2. Expand and simplify.
 - a) $(x + 4)^2$
 - b) $(y + 7)^2$
 - c) $(a + 8)^2$
 - d) $(q + 5)^2$
3. Expand and simplify.
 - a) $(3y + 6)^2$
 - b) $(3x + 2y)^2$
 - c) $(2x + y)^2$
 - d) $(6c + 7d)^2$
4. Expand and simplify.
 - a) $(x - 6)^2$
 - b) $(b - 25)^2$
 - c) $(r - 11)^2$
 - d) $(e - 7)^2$
5. Expand and simplify.
 - a) $(8a - 1)^2$
 - b) $(2u - 3v)^2$
 - c) $(6p - 7)^2$
 - d) $(5q - 8r)^2$
6. Expand and simplify.
 - a) $(v - 2)(v + 2)$
 - b) $(x + 6)(x - 6)$
 - c) $(x + y)(x - y)$
 - d) $(r - s)(r + s)$
7. Expand and simplify.
 - a) $(6g - 7h)(6g + 7h)$
 - b) $(3x + y)(3x - y)$
 - c) $(g - 9x)(g + 9x)$
 - d) $(4x - 5y)(4x + 5y)$
8. A cube has length, width, and height of x metres. Each dimension is increased by y metres.
 - a) Write a simplified formula for the volume of the new cube.
 - b) Write a simplified formula for the surface area of the new cube.
9. A parabola has equation $y = (x - 3)^2$.
 - a) Identify the coordinates of the vertex.
 - b) Expand and simplify the equation.
 - c) Verify that the coordinates of the vertex satisfy your equation from part b).
10. The side length of a square is represented by x centimetres. The length of a rectangle is 3 cm greater than the side length of the square. The width of the rectangle is 3 cm less than the side length of the square. Which figure has the greater area and by how much?
11. Expand and simplify.
 - a) $(4x^2 + 3y^2)^2$
 - b) $(3x^2 + 2y^2)(3x^2 - 2y^2)$
 - c) $(x - 3)^2 - (x + 3)(x - 3)$
 - d) $3(2b + 1)(2b - 1) + (b - 3)^2$
 - e) $(3x^2 + 5x - 1)^2$
 - f) $(2x - 3)^3$