

Section 5.4 Practice Master

1. Illustrate the factoring of each trinomial using algebra tiles or a diagram.
 - a) $x^2 + 5x + 6$
 - b) $x^2 + 6x + 9$
 - c) $x^2 + 8x + 15$
 - d) $x^2 + 12x + 27$
2. Find two integers with the given product and sum.
 - a) product = 48 and sum = 14
 - b) product = -15 and sum = 2
 - c) product = -30 and sum = -1
 - d) product = 2 and sum = -3
3. Factor, if possible.
 - a) $x^2 + 8x + 12$
 - b) $c^2 - 3c - 18$
 - c) $d^2 + 10d + 21$
 - d) $d^2 - 12d + 35$
 - e) $x^2 + x + 1$
 - f) $c^2 - 11c + 30$
 - g) $y^2 + 15y + 56$
 - h) $x^2 - x - 72$
4. Factor fully by first removing the greatest common factor (GCF).
 - a) $3x^2 - 12x - 36$
 - b) $-2x^2 + 2x + 4$
 - c) $6x^2 - 42x + 72$
 - d) $-3x^2 - 18x - 24$
 - e) $4x^2 - 40x + 84$
 - f) $x^3 + 7x^2 + 12x$
5. Determine two values of b so that each expression can be factored.
 - a) $x^2 + bx + 12$
 - b) $x^2 - bx + 18$
 - c) $x^2 + bx - 15$
 - d) $x^2 - bx - 18$
6. Determine two values of c so that each expression can be factored.
 - a) $x^2 + 4x + c$
 - b) $x^2 - 9x + c$
7. A parabola has equation $y = 3x^2 - 30x + 48$.
 - a) Factor the right side of the equation fully.
 - b) Identify the x -intercepts of the parabola.
 - c) Find the equation of the axis of symmetry, find the vertex, and draw a graph of the parabola.
8. Determine expressions to represent the dimensions of this rectangular prism.

