

**Practice Test 7: Algebraic Expressions****1. Simplify each algebraic expression.**

(a)  $(-2m^2)(-7m)(-5m)$  [K: 2]

(b)  $-2y(3y-7)$  [K: 2]

(c)  $(3x+2)(3x-2)$  [K: 3]

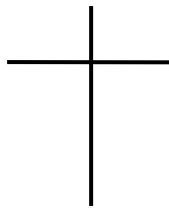
(d)  $(2a+5)(4a-3)$  [K: 3]

(e)  $(5x+2)^2$  [K: 4]

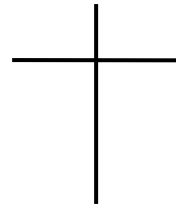
(f)  $(3x-8)^2$  [K: 4]

**2. Factor each polynomial.**

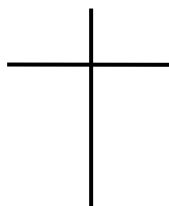
(a)  $w^2 - 12w + 36$  [K: 3]



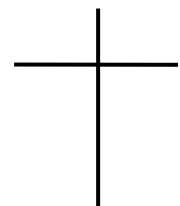
(b)  $x^2 - 10x - 24$  [K: 2]



(c)  $y^2 + 6y - 55$  [K: 2]



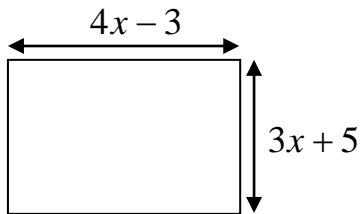
(d)  $a^2 - 49$  [K: 2]



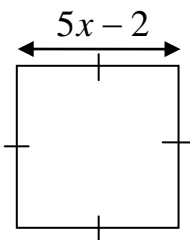
3. Factor  $14y + 21y^2$ . [K: 4]

4. Factor  $4x^3 - 8x^2 + 9x$ . [K: 4]

5. Write a simplified algebraic expression for the area of the given figure. [A: 4]



6. Write a simplified algebraic expression for the area of the given figure. [A: 4]



7. There is a basketball court at George Harvey C. I. If  $2x - 5$  represents the length of the court and  $x + 11$  represents the width of the court, write a simplified algebraic expression for the area of the basketball court.
  
  
  
  
  
  
  
  
  
  
8. The area of a rectangular room can be represented by the expression  $x^2 - 5x - 36$ . Find expressions for the dimensions of the room.
  
  
  
  
  
  
  
  
  
  
9. A room is rectangular in shape. Carpet is to be bought to cover the entire room. The length of the room can be represented by  $2x + 4$  while the width of the room can be represented by  $2x - 6$ . Find the simplified algebraic expression to represent the area of carpet needed to cover the entire room.
  
  
  
  
  
  
  
  
  
  
10. The area of the door in Room 216 can be represented by the expression  $x^2 - 17x + 72$ . Find the dimensions of the door when  $x = 10$  m.