Name: _____   Date: _____

Chapter 7 Practice Test

Multiple Choice

1. The expanded form of $(4x - 5)(3x + 1)$ is:

   A $12x^2 - 11x - 5$ **B** $12x^2 - 11x + 5$
   C $12x^2 + 11x - 5$ **D** $12x^2 - 5$

2. The expanded form of $(3x - 5)^2$ is:

   A $9x^2 + 25$ **B** $9x^2 - 25$
   C $9x^2 - 30x + 25$ **D** $9x^2 - 30x - 25$

3. The dimensions of a rectangular rooftop are $4x + 7$ by $3x + 2$. The area of the rooftop is:

   A $7x + 9$ **B** $12x^2 + 29x + 14$
   C $12x^2 + 14$ **D** $12x^2 + 26x + 14$

4. $12x^2 + 6x + 21$ when factored completely is:

   A $3x(4x^2 + 2x + 7)$ **B** $3(4x^2 + 2x + 7)$
   C $3(x + 2)(x + 3)$ **D** $3(x + 2)(x - 3)$

5. Which expression is NOT a difference of squares.

   A $4x^2 - 9$ **B** $36 - x^2$
   C $9x^2 - 49$ **D** $x^2 - 8$

6. The dimensions of a rectangle with an area of $x^2 - 6x - 7$ are:

   A $(x + 7)$ by $(x + 1)$ **B** $(x - 7)$ by $(x - 1)$
   C $(x - 7)$ by $(x - 1)$ **D** $(x - 7)$ by $(x + 1)$

7. The factored form of $9x^2 - 49$ is:

   A $(9x - 7)(9x - 7)$ **B** $(9x - 7)(9x + 7)$
   C $(3x - 7)(3x - 7)$ **D** $(3x - 7)(3x + 7)$

Short Response

8. Expand and simplify.

   a) $(x + 13)^2$ **b)** $(x - 4)^2$
   c) $(3x + 4)(3x - 1)$ **d)** $(2x - 9)(3x + 2)$

9. Factor each polynomial completely.

   a) $2x^2 + 16x + 18$ **b)** $3x^2 + 18x - 27$
   c) $4x^2 + 12x - 40$ **d)** $15x^2 - 25x + 35$

10. Determine the dimensions of each rectangle, given the area.

    a) $36x^2 - 12x$ **b)** $27x^2 + 81x$

11. Factor each difference of squares.

    a) $x^2 - 196$ **b)** $25 - 4x^2$
    c) $9x^2 - 100$ **d)** $16x^2 - 49$

12. Determine the dimensions of each rectangle, given the area.

    a) $x^2 - x - 90$ **b)** $x^2 - 6x + 8$

Extended Response

13. Tim wants to carpet his bedroom floor. The floor is $(2x + 3)$ by $(3x + 1)$.
    a) Write a quadratic expression that represents the area of the floor.
    b) If $x = 1$ m, what is the area to be carpeted?
    c) The carpet costs \$10/m^2. How much will it cost Tim to carpet his floor?

14. The perimeter of a school yard is 50 m. The area is represented by $x^2 + 3x - 18$. Find the actual dimensions of the school yard.