1. Solve the following equations. For some of these problems, the answers are not integers. Give your answer as a decimal rounded to two decimal places.

(a) \( x^2 = 4 \)  
(b) \( \sqrt{x} = 3 \)

(c) \( x^2 + 3 = 5 \)  
(d) \( 3x^2 - 5 = 2 \)

(e) \( 3\sqrt{x - 1} = 12 \)  
(f) \( 2\sqrt{2x - 1} = 10 \)
2. The area of a square is 49. Determine the length of one side of the square.

3. The area of a circle is 32. Determine the length of the radius of the circle.
4. In the following triangle, \( a = 5 \) and \( c = 13 \). Determine the value of \( b \).

5. A pizza place has two sizes of pizza, medium and large. The medium size has a diameter of 12 inches; the large size has a diameter 16 inches. Do you get more total pizza by purchasing two medium pizzas or one large pizza?
6. Multiply the following polynomials, and then simplify your answer.

(a) \( x(2 + x) \)  
(b) \( (2x)(3x^2) \)

(c) \( 3x^2(x^2 + 2x + 5) \)  
(d) \( (x + 1)(x + 3) \)

(e) \( (x - 1)^2 \)  
(f) \( (x - 4)(x + 4) \)
7. Multiply the following polynomials, and then simplify your answer.

(a) \((x + y)(x - 3y)\)  
(b) \((x + 1)(y + 3)\)

(c) \(x(x + 3)(x + 1)\)  
(d) \((x + 1)(x^2 + 3x + 1)\)

8. Factor the following polynomials using the Greatest Common Factor:

(a) \(x^2 + 5x\)

(b) \(4x^3 + 8x^2\)
9. Factor the following polynomials:
   (a) \( x^2 + 5x + 6 \)  
   (b) \( x^2 + 8x + 15 \)  
   (c) \( x^2 + 7x + 12 \)  
   (d) \( x^2 - 5x + 6 \)  

10. Solve the following equations:
   (a) \( (x - 3)(x + 5) = 0 \)  
   (b) \( (x + 2)(x - 7) = 0 \)  
   (c) \( x^2 + 9x + 20 = 0 \)  
   (d) \( x^2 - 5x + 6 = 0 \)