1. Complete the square for the following expressions.

    (a) $x^2 - 6x + 15$

    (b) $x^2 + 2x - 8$

    (c) $4x^2 - 8x + 3$

2. Complete the square for the following equations. Solve the equations if possible.

    (a) $x^2 - 8x + 12 = 0$

    (b) $x^2 + 3x - 6 = 0$

    (c) $-3x^2 - 6x + 15 = 0$

3. Find the center and radius of the circles represented by the following equations.
   Hint: Use the method of completing the square to rewrite the equation in the form

$$(x - h)^2 + (y - k)^2 = r^2$$

   where (h, k) is the center and r is the radius.

    (a) $x^2 + y^2 - 6x - 8y = 0$

    (b) $x^2 + y^2 - 4x - 2y = 11$

    (c) $2x^2 + 2y^2 + 4x + 8y - 20 = 0$