Lesson 4.7 Worksheet

Name: _____

Solve the equation by finding square roots. (Hint: Start by factoring.)

1.) $x^2 + 4x + 4 = 9$

2.) $x^2 + 10x + 25 = 64$

3.) $x^2 + 16x + 64 = 36$

4.) $x^2 - 22x + 121 = 13$

5.) $x^2 - 18x + 81 = 5$

6.) $x^2 + 8x + 16 = 45$

Find the value of *c* that makes the expression a perfect square trinomial. Then write the expression as a square of a binomial.

7.) $x^2 + 12x + c$

8.) $x^2 - 30x + c$

9.) $x^2 + 7x + c$

Solve the equation by completing the square.

10.) $x^2 + 4x = 10$

11.) $x^2 + 6x - 3 = 0$

12.) $x^2 - 18x + 86 = 0$

13.) $2x^2 + 16x = -12$ 14.) $4x^2 - 40x - 12 = 0$ 15.) $7x^2 + 28x + 56 = 0$

Write the quadratic function in vertex form. Then identify the vertex.

16.) $y = x^2 - 4x - 1$ 17.) $y = x^2 + 20x + 90$ 18.) $y = x^2 + 12x + 37$

Solve the equation.

19.) $-2x^2 = 424$ 20.) $x^2 + 12 = 9$

Write the expression as a complex number in standard form.

21.) $3i(7 - 9i)$ 22.) $\dfrac{3 - 2i}{-8 + 5i}$