Chapter 4 (Part 2) Review Worksheet

Name: _____

Solve the equation.

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

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

3.) $\frac{1}{3}x^2 + 10 = -23$

4.) $-5x^2 - 3 = 97$

5.) $(x - 10)^2 = -54$

6.) $-(x + 7)^2 + 8 = 44$

Write the expression as a complex number in standard form.

7.) $(8 - 6i) + (7 + 4i)$

8.) $(2 - 3i) - (6 - 5i)$

9.) $(3 + 4i) - (2 - 5i)$

10.) $-9i(2 - i)$

11.) $(5 + i)(4 - 2i)$

12.) $(2 - 7i)(-8 - 3i)$

13.) $\frac{4i}{-3+6i}$

14.) $\frac{3+i}{2-3i}$

15.) $\frac{5+i}{7+4i}$

Use the properties of exponents to write the complex number in standard form.

16.) $-5+i^7$

17.) $4+i^{29}$

18.) $-11-2i^{66}$

19.) $15+7i^{76}$

Solve the equation by completing the square.

20.) $x^2+16x-17=0$

21.) $x^2-6x-15=0$

22.) $2x^2+8x-28=0$

23.) $x^2+24x+244=0$

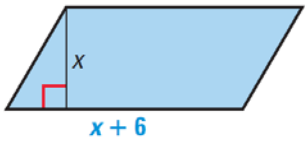
Write the quadratic function in vertex form. Then identify the vertex.

24.) $y = x^2 + 14x + 39$

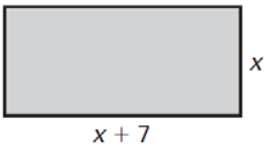
25.) $y = x^2 - 20x + 125$

Find the value of *x*.

26.) Area of parallelogram = 48 units^2
$(A = b \bullet h)$



27.) Area of rectangle = 78 units^2



Use the quadratic equation to solve the equation.

28.) $x^2 + 4x - 3 = 0$

29.) $9x^2 = -6x - 1$

30.) $6x^2 - 8x = -3$

31.) $3x^2 + 10x - 5 = 0$

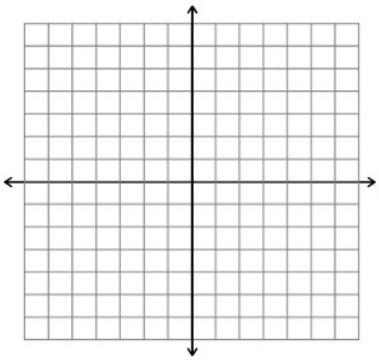
32.) A person spikes a volleyball over a net when the ball is 9 feet above the ground. The volleyball has an initial vertical velocity of -40 feet per second. The volleyball is allowed to fall to the ground. How long is the ball in the air after it is spiked?

33.) A juggler tosses a ball into the air. The ball leaves the juggler's hand 4 feet above the ground and has an initial vertical velocity of 40 feet per second. The juggler catches the ball when it falls back to a height of 3 feet. How long is the ball in the air?

34.) $y < -2x^2 + 8x - 5$

AOS: _____

vertex: _____

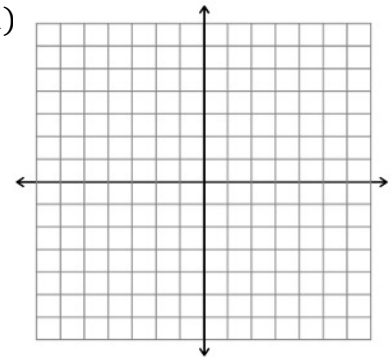


x					
y					

35.) $y \geq -(x + 5)(x + 1)$

AOS: _____

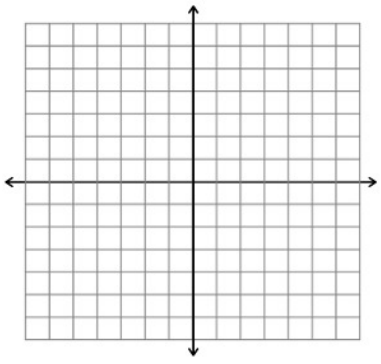
vertex: _____



x					
y					

36.) $y > 2(x - 4)^2 - 5$

$y \leq -x^2 + 4x + 2$



37.) $y < 2x^2 + 2$

$y \geq -x^2 - 3$