Name_____ Analytic Geometry

Date _____ Period _____ Ch. 16 Test Review

Solve each quadratic by factoring.

1) $x^2 - 2x - 35 = 0$

2) $-5x^2 + 500 = 0$

3) $16x^2 = 64x$

4) $2x^2 - 3x = 35$

5) $49x^2 - 25 = 0$

6) $8x^2 + 8x = -2$

Solve each quadratic by completing the square.

5) $x^2 + 8x - 16 = 0$

6) $x^2 - 26x = 231$

7) $x^2 - 8 = 18x$

8) $5n^2 - 20n - 25 = 0$

Solve each quadratic by Quadratic Formula.

9) $r^2 - 8 = 0$

10) $2v^2 - 12v = 110$

11) $6x^2 - 12x = 0$

12) $-2x^2 = -8x - 2$

Write a quadratic function given the following zeros:

16) 0, -5

17) $-\frac{5}{2}, \frac{1}{7}$

Solve using the method of your choice.

18) $4x^2 - 3x = 10$

19) $2x^2 - 16 = -12x$

20) $x^2 = 13x - 22$

21) $2(x + 4)^2 = 40$

22) $9x^2 - 23 = 12x$

23) $4m^2 - 8m - 81 = 0$

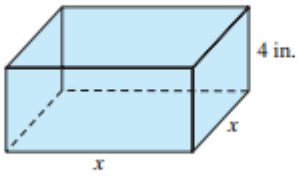
Solve the word problems.

24) A water balloon is catapulted into the air so that it's height h, in meters, after t seconds is $h = -4.9t^2 + 27t + 2.4$. When will the balloon hit the ground?

25) You get mad at your math homework and crumple it up to throw in the trash. Your paper follows a path modelled by the following function: $f(t) = -2t^2 + 11t + 6$. How long does it take before your paper hits the bottom of the trash can?

26) The length of a rectangle is three more than twice the width. Determine the dimensions that will give a total area of 27 meters squared.

27) The volume of a box with a square bottom and a height of 4 in. is given by $V(x) = 4x^2$, where x is the length (in inches) of the sides of the bottom of the box.



a. If the volume of the box is 289 in.^{3}, find the dimensions of the box.

b. Are there two possible answers to part (a)? Why or why not?

28) The length of a rectangle is 17 cm less than four times its width. If the area is 42 centimeters squared, then what are the dimensions?