Algebra 1   Name_____

Unit 9B PC Review WS

Solve each equation by factoring.

1) $8v^2 + 8v - 96 = 0$

2) $x^2 - 4x - 5 = 0$

3) $6n^2 = 42n$

4) $n^2 - 4 = 0$

5) $n^2 - 35 = -2n$

6) $x^2 + 7x = 8$

7) $3x^2 = -42 + 25x$

8) $3x^2 - 5x = 8$

9) $7a^2 + 57a = -8$

10) $2r^2 + 6 = 13r$

Solve each equation with the quadratic formula.

11) $2k^2 - 10k - 72 = 0$

12) $k^2 - 4k - 20 = 0$

13) $b^2 = 7 - b$

14) $a^2 + 3 = -4a$

15) $x^2 = 78 + 7x$

16) $6x^2 - 40 = -8x$

17) A fireworks rocket is launched from a hill above a lake. The rocket will fall into the lake after exploding at its maximum height. The rocket's height above the surface of the lake is given by $g(x) = -16x^2 + 64x + 80$. How long will it take the rocket to hit the lake?

18) A rock is thrown from the top of a tall building. The distance, in feet, between the rock and the ground x seconds after it is thrown is given by $f(x) = -16x^2 - 4x + 382$ How long after the rock is thrown does it hit the ground?

19) In an effort to catch a criminal; a superhero is going to leap over a building and take a short cut down the ally. The function $f(x) = -16x^2 + 150x$ gives the superhero's height in feet as a function of time. The building is 425 feet high. Will the superhero make it over the building?

20) You are interested in retrieving a souvenir from a shipwreck located below the water. You do not have diving equipment, so your dive is limited by the equation $y = 0.05x^2 - 4x - 38$ Assumming you are able to retrieve your souvenir, how long do you have to hold your breath until you resurface?