Algebra Name_____

A.REI.4b and F.IF.8 Review

Date_____ Period____

Solve the following quadratic equations using the best method. Show all your work. Round to the hundredth place, when necessary.

1) $2n^2 - 28n = -96$

2) $x^2 = x + 20$

3) $a^2 = -2a + 24$

4) $6x^2 - 36 = -30x$

5) $3n^2 - 8n = 128$

6) $k^2 - 17 = -12k$

7) $3n^2 - 66 = -7n$

8) $2v^2 = 120 + v$

9) A child at a swimming pool jumps off a 12-foot platform into the pool. The child's height in feet above the water is modeled by $h(t) = -16t^2 + 12$, where t is the time in seconds after the child jumps. How long, to the nearest hundredth of a second, will it take the child to reach the water?

10) A worker drops a hammer from a second-story roof that is 10 meters above the ground. If the hammer's height in meters above the ground is modeled by $h(t) = -4.9t^2 + 10$, where t represents the time in seconds after the hammer is dropped, about how long, to the nearest hundredth of a second, will it take the hammer to reach the ground?

11) A water balloon is catapulted into the air so that its height h, in meters, after t seconds is

$$h = -4.9t^2 + 27t + 2.4$$

a) How high is the balloon after 1 second?
b) For how long is the balloon more than 30 m high?
c) What is the maximum height of the balloon? d) When will the balloon burst as it hits the ground?

Answers to A.REI.4b and F.IF.8 Review

1) $\{6, 8\}$
2) $\{5, -4\}$
3) $\{4, -6\}$
4) $\{1, -6\}$
5) $\{8, -5.333\}$
6) $\{1.28, -13.28\}$
7) $\{3.667, -6\}$
8) $\{8, -7.5\}$
9)
10)
11)