

Name: _____ Date: _____

Quadratic Applications

1. You drop a ball off a cliff at 320 ft. How long does it take the ball to hit the ground? $0 = -16t^2 + 320$

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2. You launched a model rocket with an initial speed of 64 feet per second and a start height of 512. After how many seconds will the rocket hit the ground?
 $0 = -16t^2 + 64t + 512$

A ball is thrown into the air from a height of 256 feet at time $t = 0$. The function that models this situation is $h(t) = -16t^2 + 96t + 256$, where t is measured in seconds and h is the height in feet.

3. What is the height of the ball at 2 seconds? $h(2) =$
4. When will the ball reach a height of 144 feet? $144 = -16t^2 + 96t + 256$
5. When will the ball hit the ground? $0 = -16t^2 + 96t + 256$
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Solve each quadratic equation using the best method.

6. $2x^2 - 100 = 0$

7. $(x+2)^2 + 16 = 0$

8. $6x^2 + 25x + 11 = 0$

9. $9x^2 - 36x = 0$

10. $4x^2 + 4x + 1 = 0$

11. $2x^2 - 5x - 12 = 0$
