

**Practice – Solving Quadratics Applying the Quadratic Formula Day 2**

**Solve the equations below using the Quadratic Formula. Leave answers in exact and estimated form. Round solutions to the nearest tenth, if necessary.**

1.  $4x^2 + 5x - 6 = 0$

2.  $6x^2 - 12x = -1$

3. A toy rocket is shot into the air from the ground with an initial velocity of 160 feet per second. Its height in feet,  $h$ , can be modeled by the equation  $h(t) = 160t - t^2$ , where  $t$  is the number of seconds since the rocket was shot.

A. Find the height of the rocket when  $t=0$ . Explain the meaning of your answer.

B. Find how long the rocket is in flight. Show or explain your work.

4. Which shows how to correctly use the quadratic formula to solve the equation  $x^2 + 10x = -25$  for  $x$ ?

A.  $x = \frac{-10 \pm \sqrt{10^2 - 4(1)(-25)}}{2(1)}$

B.  $x = \frac{-10 \pm \sqrt{10^2 - 4(1)(25)}}{2(1)}$

C.  $x = \frac{10 \pm \sqrt{10^2 - 4(1)(-25)}}{2(1)}$

D.  $x = \frac{-10 \pm \sqrt{10^2 + 4(1)(-25)}}{2(1)}$

5. What are the possible solutions to  $x^2 - 24x - 180 = 0$ ?

- A.  $x = -20$  or  $x = 9$
- B.  $x = 20$  or  $x = -9$
- C.  $x = -30$  or  $x = 6$
- D.  $x = 30$  or  $x = -6$

6. Given, what are the possible values of  $x$ ?

- A.  $2\sqrt{3} \pm 5$
- B.  $-2\sqrt{3} \pm 5$
- C. 5, -5
- D. No real solutions



7. Pick one of the methods you have learned for solving quadratics to solve  $x^2 + 9x + 14 = 0$ . Explain why you choose that particular method.