

PQ #21

MTH 1825 Practice Quiz for the Discriminant and Quadratic Applications

1. Use the discriminant to determine the number of real solutions of  $2x^2 - 5x - 3 = 0$ .

Discriminant: \_\_\_\_\_ Number of real solutions: \_\_\_\_\_

2. Use the discriminant to determine the number of real solutions of  $49x^2 - 56x + 16 = 0$ .

Discriminant: \_\_\_\_\_ Number of real solutions: \_\_\_\_\_

3. A ball is thrown from a height of 65 meters with an initial downward velocity of 10 m/sec. The ball's height  $h$  (in meters) after  $t$  seconds is given by  $h = 65 - 10t - 5t^2$ . How long after the ball is thrown does it hit the ground? Round to the nearest hundredth.

Answer: \_\_\_\_\_