

Name: _____

Show work needed to justify your answer.

Date: _____

HW: # 13a: Math IBSL - Standard 13 - Applications of Quadratics

5 points

- 2 The height of a ball t seconds after it is thrown is modelled by the function $h(t) = 2 + 20t - 4.9t^2$, where h is the height of the ball in metres.
- a Find the height of the ball 3 seconds after it is thrown.
 - b Find the times at which the ball has a height of 6 m.
 - c Find the maximum height of the ball.

- 4 The shape of an archway is modelled by the graph of a quadratic function. The maximum height of the archway is 4 m and the maximum width is 4 m. The graph shows a model of the archway.

- a Find a function to model the archway.
- b Use the function to determine whether an object 3 m wide and 1.6 m tall will fit through the archway.



