

3.1 Quadratic Functions & Models

Name _____

1. Find the vertex of the quadratics.

a) $f(x) = 4x^2 - 8x - 9$

b) $g(t) = t^2 - 3t + 2$

4. Sketch the graph of the quadratic functions.

a) $f(x) = 4x^2 - 8x - 9$

b) $g(t) = t^2 - 3t + 2$ (identify its intercepts).

5. The profit P (in dollars) for a manufacturer of collector Lumberjack Axes is given by

$$P(x) = -0.0002x^2 + 140x - 250,000$$

where x is the number of axes. What production would yield the maximum profit?