

Review Pg. 338 #10 and what is the maximum revenue?

Unit #5 More Quadratic Relations

U5L1 – 4.2 The Vertex form of a Quadratic Relation

Students will learn the vertex form for a quadratic relation and use it to solve problems.

Complete pg. 345 – 346 #(2 – 8, 10 – 12)all

Read the Key Ideas on pg. 346.

Examples

1. Find the vertex, the axis of symmetry, the direction of opening, and the number of zeros for the graph of the quadratic relation.

a) $y = -\frac{1}{2}(x-5)^2 - 3$

b) $y = 2(x+3)^2 - 7$

2. A ball is hit into the air. Its height H (in metres) after t seconds is

$$H = -5(t-4)^2 + 120.$$

a) In which direction does the parabola open? How do you know?

b) What are the coordinates of the vertex? What does the vertex represent in this situation?

c) From what height was the ball hit?

d) Find one other point on the curve and interpret its meaning?

3. A parabola passes through the point $(-5,6)$ and has vertex $(-3,-10)$. Find its equation in vertex form and in standard form.

Ex. Pg. 351 – 356 #1all,(3 – 10)alt,12,15,22