TEST NAME: **Unit 5 Test "C"**
TEST ID: **4047704**
GRADE: **07 - Seventh Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**
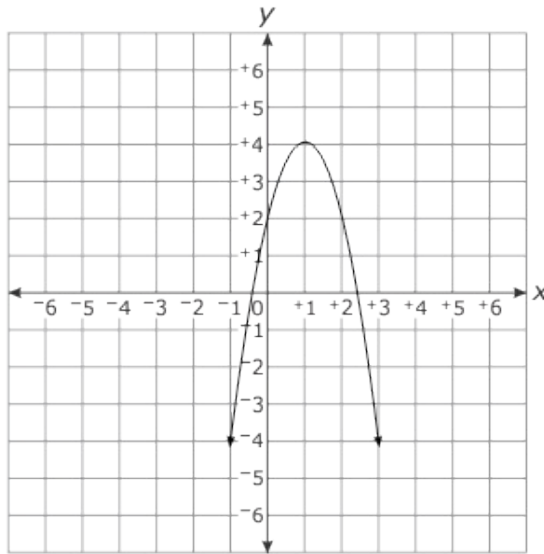
Student: _____

Class: _____

Date: _____

1. Aaron compared the maximum value of $y = {}^-2x^2 + 6x + 5$ to the maximum value of the function graphed below.

   What is the *x*-value of the larger maximum?

2. Daniel compared the linear function, $f(x)$, containing the points $(10, {}^-7)$ and $(5, {}^-5)$, to the function given below.

$$g(x) = x^2 + 6x + 8$$

   What is the distance between the *y*-intercepts of the two functions?

3. James kicked a ball off the ground into the air. The function $h(t) = {}^-16t^2 + 40t$ models the height (in feet) of the ball t seconds after it was kicked. How long did it take the ball to hit the ground after being kicked?

4. Jordan tosses a coin off a bridge into the river. The height of the coin, $f(x)$, in feet, is represented by the function $f(x) = {}^-16x^2 - 16x + 60$, where x represents the time, in seconds. How long is the coin in the air?

5. The height of a dolphin as it comes out of the water can be modeled by the function $h(t) = {}^-16t^2 + 24t$, where t is the time, in seconds. After how many seconds does the dolphin reach its maximum height?

6. A ball was kicked up into the air from the ground at a velocity of 40 feet per second. The function $h(t) = {}^-16t^2 + 40t$ gives the ball's height in feet after t seconds. What is the maximum height of the ball?