

TEST NAME: **Unit 5 Test "A"**  
TEST ID: **4046027**  
GRADE: **07 - Seventh Grade**  
SUBJECT: **Mathematics**  
TEST CATEGORY: **School Assessment**

Student: \_\_\_\_\_

Class: \_\_\_\_\_

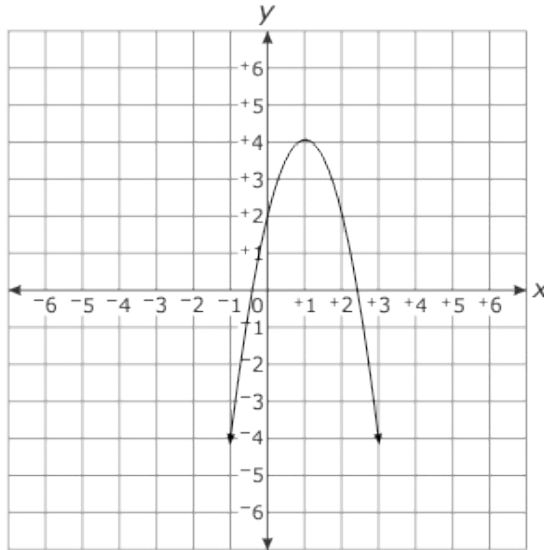
Date: \_\_\_\_\_

1. What is the distance between the  $y$ -intercept of the function  $f(x) = 2x^2 - 6x + 3$  and the  $y$ -intercept of the linear function  $g$  represented by the table below?

$x$	$g(x)$
-5	15
-2	3
2	-13
5	-25

- A. 2 units
- B. 3 units
- C. 8 units
- D. 9 units
2. What is the smallest zero of the function defined by  $3x^2 - 7x - 6$ ?

3. 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?

4. A ball is thrown into the air at an initial velocity of 24 feet per second. The function  $h(t) = -16t^2 + 24t + 5$  represents the height, in feet, of the ball after  $t$  seconds. What is the maximum height of the ball?
5. Jason kicked a ball into the air. The function  $h(t) = 80t - 16t^2$  models the height of the ball, in feet,  $t$  seconds after it was kicked. How long does it take the ball to hit the ground?
6. Two rockets were launched from a rooftop. The heights of the rockets  $x$  seconds after being launched are modeled by the functions shown below.

$$\text{Rocket F: } f(x) = 2x^2 - 18x + 40$$

$$\text{Rocket G: } g(x) = 3x^2 - 30x + 72$$

What is the Product of the Minimum Values ( $y$ -value of the vertex)?