NAME:

**Lesson 2.3: Quadratic Functions Expressed in Standard Form**

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This assignment includes multiple choice and short answer questions. For multiple choice questions, select the best answer. Each is worth 1 mark. Marks assigned to short answer questions are indicated for each question. Be sure to show all necessary work.

**/1** 1. The factored form and zeros of the function  are



1. , zeros are , 
2. , zeros are , 
3. , zeros are , 
4. , zeros are , 

Answer:

**/1** 2. Convert  to vertex form by completing the square.

1. 
2. 
3. 
4. 

Answer:

**/1** 3. The correct *y*-intercept, with proper reasoning, for the graph of the function  
  is

1. 10 because 
2. 5 because 
3. –5 because 
4.  because 

Answer:

**/1** 4. A quadratic function has zeros at  and 6. The graph of the function passes through the

point . What is the equation of the function, in standard form?

1. 
2. 
3. 
4. 

Answer:

1. Larry likes skeet shooting, where a clay disc is shot into the air, and the participant tries to shoot it as it flies through the air. The discs are released from a firing mechanism that sits at ground level and shoots the disc on average a horizontal distance of 120 m on a parabolic path. On average, the skeet hits a height of 37.5 m after travelling a horizontal distance of 45 m.

**/1** a. Sketch and label a diagram that represents the given information.

**/2** b. Determine the equation of a function, in standard form, that represents the flight of  
 the clay disc. Leave values as fractions.

**/3** c. Determine the average maximum height of the skeet by completing the square.

**/10**

You have completed *Lesson 2.3 Explore Your Understanding Assignment*. Please continue your exploration with *Lesson 2.4.*