

Warm-up:

Directions: For the following questions, refer to the pictures presented on the eno board at the beginning of class.

- Image 1: Will he make the basketball into the hoop? _____
 - Can you draw a path of a shot that will make it? How about one that will miss it? (Draw sketch on the left hand margin).

- Image 2: How about now? Will he make the basketball into the hoop? _____
 - Can you draw a path of a shot that will make it? One that shows he will miss it? (Draw sketch on the left hand margin).

- Image 3: Is this picture more obvious? Will he make the shot now? _____
 - Can you draw the path that shows if he makes it or not with the three basketballs?

The Big Idea:

-In mathematics, we call the U-shaped curve created by the motion of the basketball a _____.

-In order to graph *parabolas* (based on the three images we have seen) we need AT LEAST ___ points.

-The highest point that the basketball reaches (highest point of a parabola) is called the _____.

Note that the vertex can be the highest or lowest point of a parabola.

Definitions (p. 518 in textbook):

A **quadratic function** is a function that can be written in the standard form: _____.

A **parabola** opens up if **a** is positive.

And opens down if **a** is negative.

Axis of symmetry is the line passing through the vertex divides the parabola into two _____ parts.