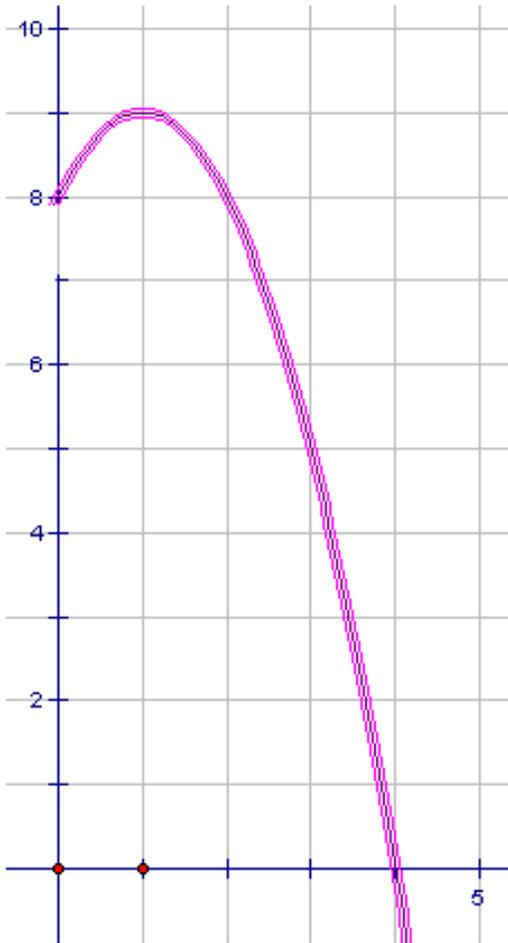


Introduction to Quadratics - Review

Scenario 1 – Olympic Diver



Katherine has been studying her dives in preparation of the 2012 London Olympics. She has her friend record her jump, and the following graph is what represents her best dive of the day (height and distance in metres).

Identify the key features of the graph:

Vertex: (____, ____) Zeros: _____

y-intercept: _____

Interpret the key features of the graph:

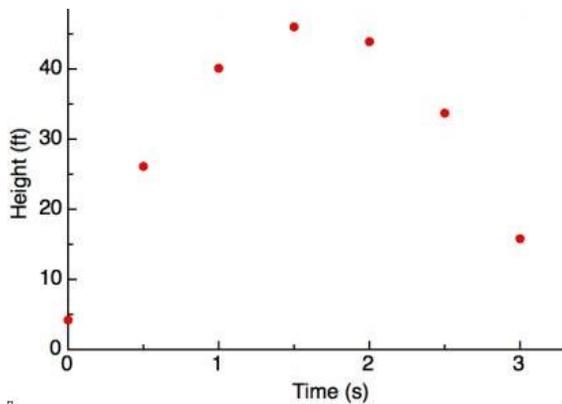
What is the highest point that the Katherine reaches?

How far is Katherine from her board when she reaches her maximum height?

After far away from the edge of the pool does Katherine land?

How high will Katherine be when she is 3 m away horizontally from the diving tower? _____

Scenario 2 – Baseball Player



The scatterplot to the left models the height (in feet) of a baseball over time (seconds) after it was hit by a player.

Fit a quadratic model to the graph by hand.

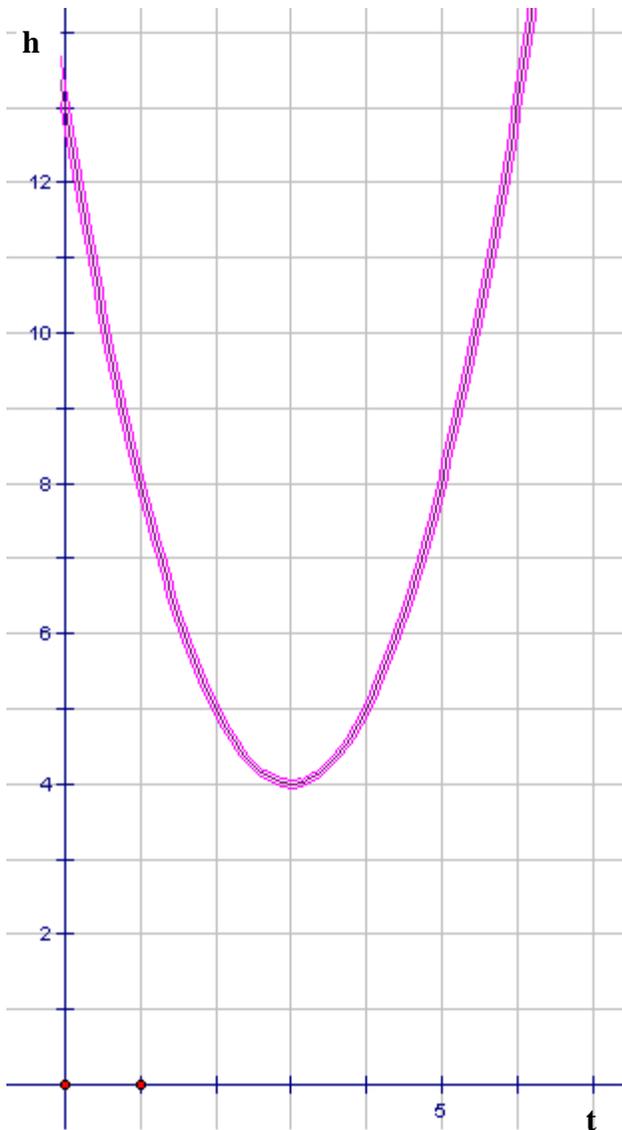
Identify the key features of the graph:

Vertex: (____, ____) Zeros: _____ y-intercept: _____

Interpret the key features of the graph:

What is the highest point that the ball reaches? _____

What does the y-intercept stand for?

Scenario 3 – Roller Coaster

Tom is building a model of the Behemoth roller coaster at Canada's Wonderland. He recorded his roller coaster's height, h , on the track after t seconds.

Identify the key features of the graph:

Vertex: _____ Zeros: _____
 y-intercept: _____

Interpret the key features of the graph:

What does the vertex represent in the context of this problem?

What does the y-intercept represent in the context of this problem?

Explain why this parabola has no x-intercepts (be specific to the scenario given above).

Draw conclusions

How long will Tom's roller coaster be 8 m or higher in the air?

Knowledge and Understanding

Criteria	Below Level 1	Level 1	Level 2	Level 3	Level 4
<p>Student can look at data / graphs and identify the key features. <u>(Identify Key Features)</u> <u>(Understanding properties of quadratics)</u></p>	Incorrectly identifies the vertex, zeroes, and axis of symmetry.	<p>Demonstrates limited knowledge of key features.</p> <p>Does not verify correctly as a quadratic relation.</p>	<p>Demonstrates some knowledge and understanding of key features.</p> <p>Table of values completed. No justification of verification as a QR.</p>	<p>Identifies all key features with one error or an error in notation.</p> <p>Completes table of values. Minor error in verifying QR</p>	<p>All key features identified and correct.</p> <p>Correctly identifies method for verifying a QR.</p>

Application

Criteria	Below Level 1	Level 1	Level 2	Level 3	Level 4
<p>To be able to look at data / graphs and describe the significance of key features. <u>(Interpret Key Features)</u></p>	No evidence of correct interpretation of the information	Misinterprets a major part of the information, but carries on to make some reasonable statements	Misinterprets part of the information, but carries on to make some reasonable statements	Correctly interprets the information and makes reasonable statements	Correctly interprets all of the key information and makes subtle or insightful statements

Thinking & Inquiry

Criteria	Below Level 1	Level 1	Level 2	Level 3	Level 4
<p>Quadratic scenario brainstorming and key features in context. <u>(Scenario 4)</u></p>	Student cannot identify a quadratic scenario or relate key points to scenario.	Student identifies scenario but cannot relate key points to the context.	Student identifies realistic scenario and relates some of the key features to the scenario.	Student identifies realistic scenario and most key features make sense in their context.	Student creates realistic scenario and all key features make sense in the context of the problem.

Communication

Criteria	Below Level 1	Level 1	Level 2	Level 3	Level 4
Summarizing sentences are used and all units are included where necessary	No units or summarizing sentences included.	Some units included but no summarizing sentences included.	Some units and summarizing sentences missing.	All units included. Most sentences summarize answers.	All open questions are answered in sentences will all units included.

Name: _____