Pathways Reading Guide M5 Section 4

Please read Module 5, section1 in your e-book, pp. 31 – 42. (Click on Module 5, then "text.")

Be sure to *read with a pencil in hand* and attempt the examples before you read the solution given. Take notes of important definitions and ideas as you read. I don't expect you to have 100% comprehension of everything in the section, but spending significant time trying to understand the main ideas will assist you as you work on the Investigation during our next class.

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Where does the word "quadratic" come from? What does it mean?

Give an example of a quadratic function.

Look carefully at the sketch on the bottom of p. 31 and study the table on p. 32. How is a quadratic function different than a linear function? What is constant in a quadratic function? (p. 34)

Study Example 18 on p. 34.

- How can you find the height of the bridge?
- How can you find the maximum height of the rock?
- How can you find the time when the rock hits the water?

True or False: *If $a \cdot b = 1$, then $a = 1$ or $b = 1$*. Explain.

Explain three different ways of finding the horizontal intercepts of the graph of a quadratic function.

State the quadratic formula and explain why $x = -\dfrac{b}{2a}$ gives the equation of the line of symmetry of a quadratic.

Explain why $x = -\dfrac{b}{2a}$ gives the x-coordinate of the vertex of the graph of a quadratic function.

How do we know whether a quadratic function has a maximum or minimum value?