

## Post-Video Questions Preview

Here are some questions you'll be asked after you finish watching the video. Please read through these before watching the video.

**Problem 1** Consider the function  $f(x) = -x^{3.4} + 2x^{2.4} + 2$ . Use calculus to find the maximum value of  $f(x)$  over the interval  $[-.75, 4]$ .

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**Problem 2** You have a 10-foot long piece of wood and a long rope. You want to use these materials to make a right triangle where the legs are made from the wood and the hypotenuse is made from the rope. Where should you cut the wood to maximize the area of the triangle?

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**Problem 3** You have 10 square inches of Aluminum and want to use this to make a cylindrical can. What should its dimensions be to maximize its volume?

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Learning outcomes:  
Author(s):