

# SAMPLE WEEKLY MATH JOURNAL ASSIGNMENT

## Elementary, My Dear Watson

An important piece of information for Sherlock Homes (and, before he got there, for the butler, Brunton) was the height of the elm tree. Since the elm tree had been struck by lightning and cut down, they each asked Reginald Musgrave if he knew its height, which he (surprisingly) did.

Musgrave explained that while the tree was still standing, he found its height as a part of his study of trigonometry; however, there is a simpler approach to determine the tree's height than trigonometry.

Your first task, then, is to find a method you could use to determine the height of the tree if you *weren't* able to measure it directly. Describe the process you would use and work out the "problem."

Sherlock Holmes wasn't done when he knew the height of the elm tree, though. The important point in the ritual was not the height of the tree but where its shadow ended. With no tree, there would obviously be no shadow. How did Holmes (and Brunton before) figure out where the shadow would end? Explain the process he used in your own words and the similarities and differences between the process he used and the process you used to find the tree's height. Include an illustration to support your explanation.