



The University of Georgia

Mathematics Education Program

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Comparing Radicals

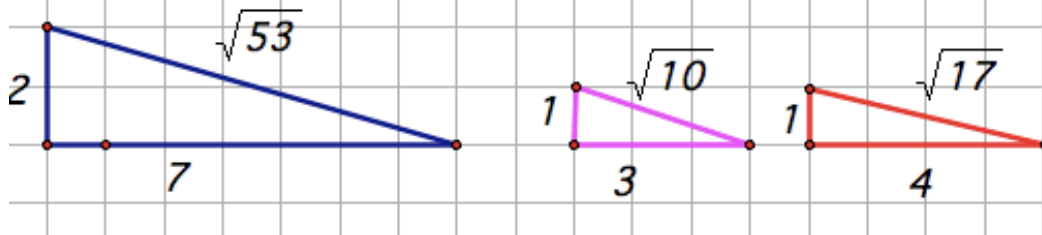
By Leighton McIntyre

Goal: To show which radicals are larger or smaller

Problem

Solution

Construct right triangles with dimensions
hypotenuses of
 $2-7-\sqrt{53}$ (blue triangle)
 $1-3-\sqrt{10}$ (purple triangle)
 $1-4-\sqrt{17}$ (red triangle)
on the coordinate plane



Translate the purple and red triangles to fit into the blue triangle as shown.
Note that the hypotenuses of the purple and red triangles put together are longer than the hypotenuse of the blue triangle and so

$$\sqrt{10} + \sqrt{17} > \sqrt{53}$$

