

## Introducing Trigonometry

The topic of trigonometry is one of the many problem areas in mathematics, that students at secondary school. In order to help students overcome this difficulty, I start with a practical investigation. This I do by giving the students a worksheet with three similar right-angled triangles. I then get the students to measure each side of each triangle. From this they are able to work out the ratio's; adjacent : hypotenuse, opposite : hypotenuse and opposite : adjacent. Taking experimental error into account, they should get each of the three ratios correct to two decimal places. I then ask them to explain what they would expect to find for three other similar triangles, having a different angle. I then explain that each ratio has a special name, Cosine, sine and Tangent, with each ratio for any right-angled triangle having the same value. This method I find allows students to go on with confidence using trigonometry in the current and future lessons. A useful web resource can be found at [www.mathsci.appstate.edu/~sjg/class/3010/final/jane3.pdf](http://www.mathsci.appstate.edu/~sjg/class/3010/final/jane3.pdf).

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