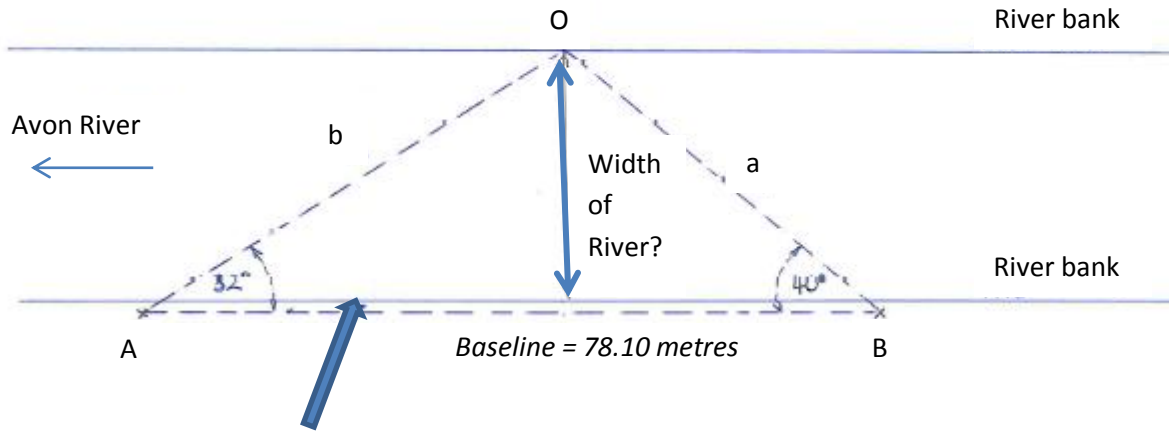
| Surveying | **Curriculum Area:** Mathematics and Statistics, **Level 5-6** | **Strand:** Geometry and Measurement |
|---|---|---|
| **Achievement Objectives:** | *Apply trigonometric ratios and Pythagoras' theorem in two dimensions* | |
| **Learning Intention:** | Apply laws of trigonometry to find the location of a set point | |

***A surveyor marks 2 positions on one side of the Avon River, a metre off the bank, measures 78.10 metres between them, then sets up a theodolite at each position and measures the angles at A & B to 0.***

*Question; What is the width of the of the Avon River at Point 0?*




***Baseline is 1 metre off the river bank***

*Angle A = 32 degrees*
*Angle B = 40 degrees*

[Use the sine rule to find the unknown sides of the triangle]

Show your working here: