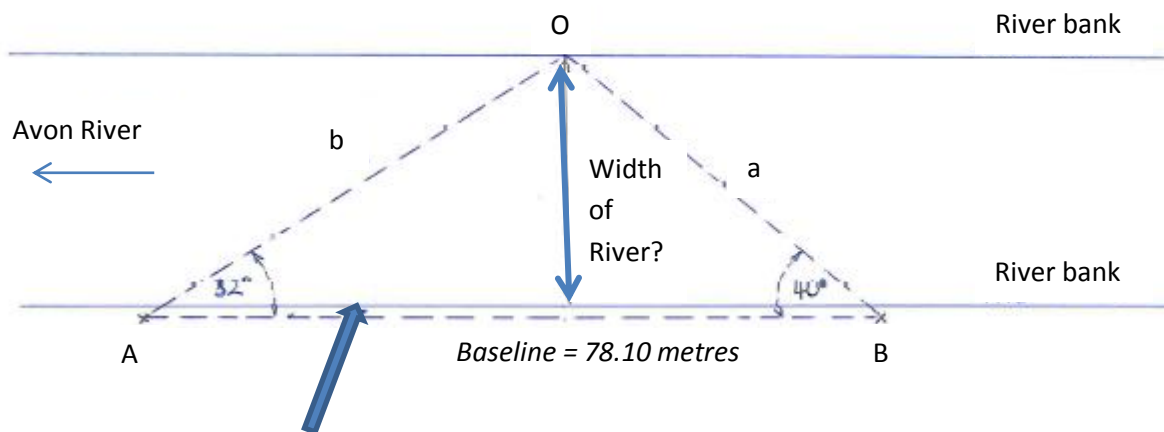


<b>Surveying</b>		Curriculum Area: Mathematics and Statistics, <b>Level 5-6</b>	Strand: Geometry and Measurement
Achievement Objectives:	Apply trigonometric ratios and Pythagoras' theorem in two dimensions		
Learning Intention:	Apply laws of trigonometry to find the location of a set point		

**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 O.**

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



**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: