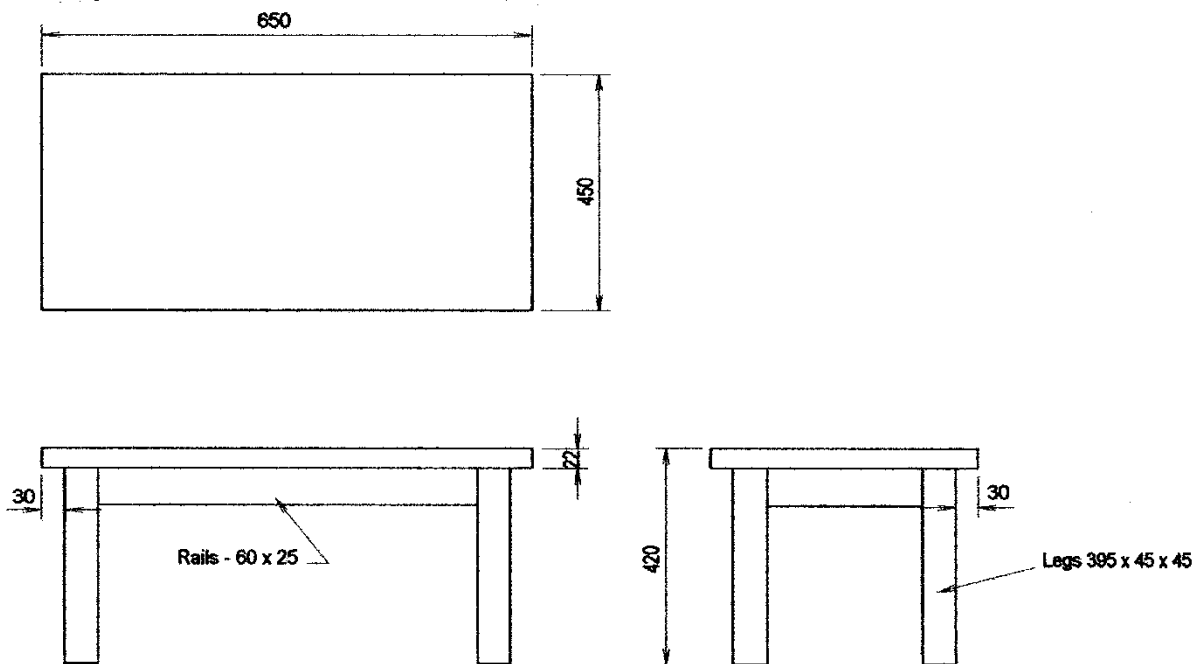


Knowledge Assessment 1 – 24361 (v3) Apply mathematical processes to BCATS projects

**Student name:**

**Situation 1.** You have been given the following specifications and asked to construct a coffee table. The tabletop is to be constructed out of solid rimu – ex 160 x 25.

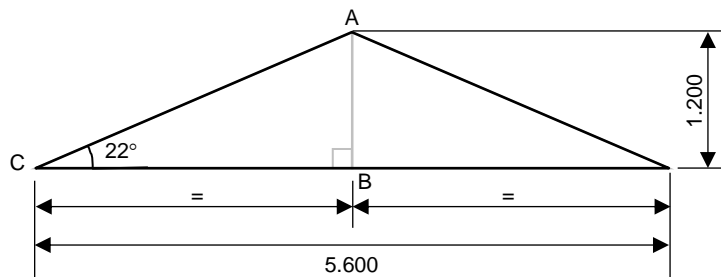


Work out the amount of timber (quantities, sizes etc) required. Show your calculations.

1. From your calculations, complete the following cutting list for the timber for the coffee table.

Part	Number of	Length	Width	Thickness	Total length
Top					
Side rails					
End rails					
Legs					

**Situation 2.** The drawing below shows the outline of a roof section. From the information given answer the following and show your working.



2. Using Pythagoras theorem, calculate the length of the rafter A – C.

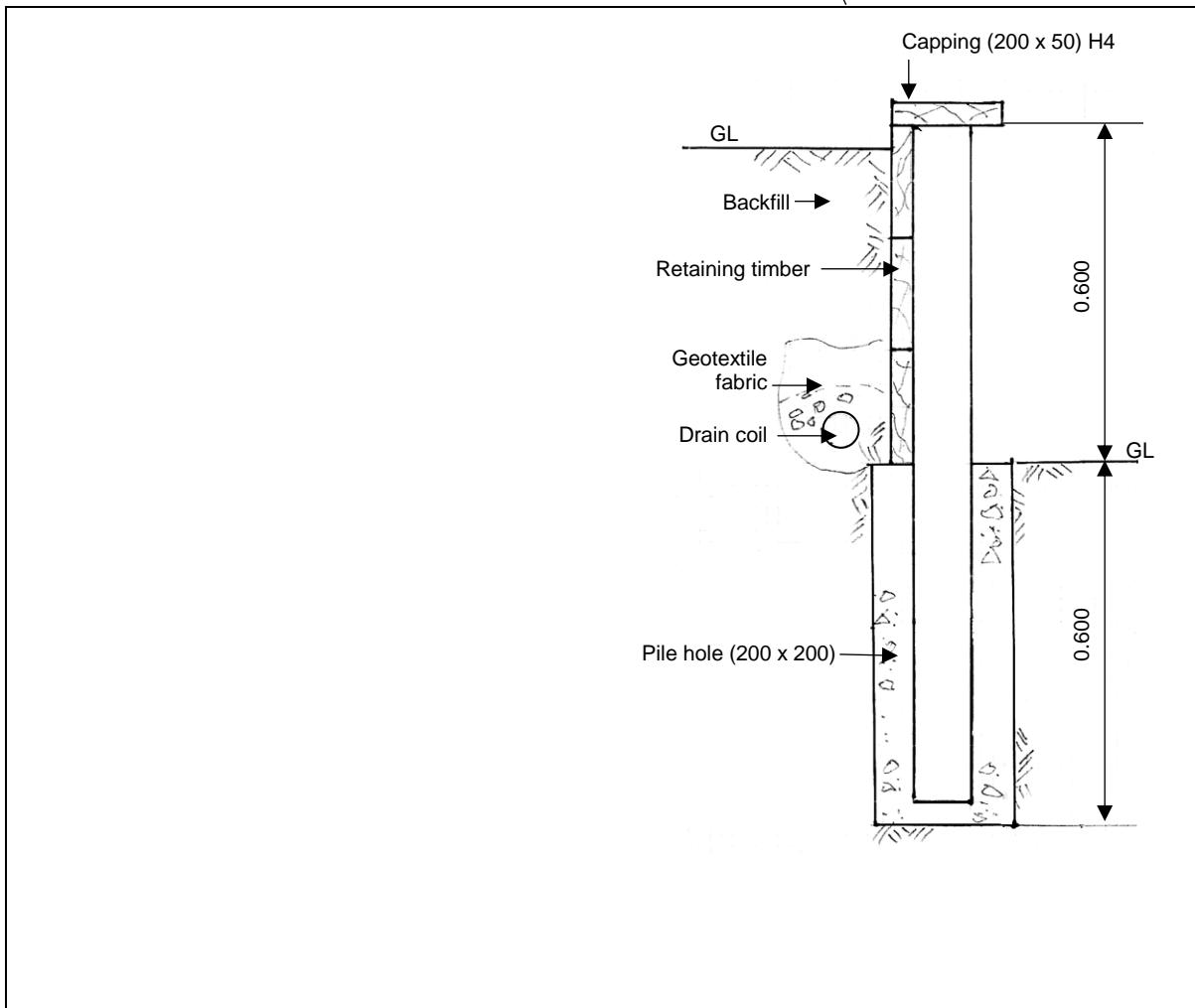
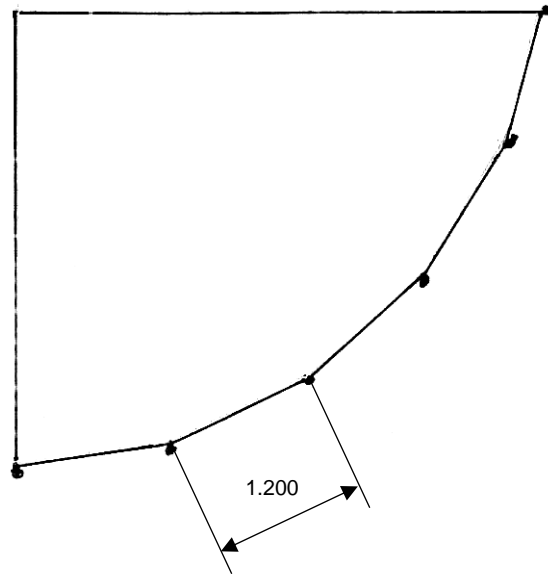
3. Using the triangle theorem, calculate the angle CAB.

**Situation 3.** The curved section of a residential garden is to be retained using a simple timber post and rail retaining wall.

**Job specifications**

- Posts                    100 x 100 D45 H4 treated
- Retaining timber    200 x 50 D45 H4 treated
- Concrete              Will be purchased

4. Calculate the quantity of timber and concrete materials required. Show your working.



5. From your calculations complete the following materials list.

Part	Number of	Size	Totals
Rails			
Capping			
Posts			

**Situation 4.** A rectangular area that is 3.750m x 5.250m is to be paved with 150 x 150 x 0.40 concrete paving slabs that cost \$2.10 each.

The edge restraint timber is 150 x 50 and a decorative timber inlay strip is to be inserted diagonally from corner to corner.

6. Calculate the total number of paver slabs required and how much will they cost.

7. Calculate the total length of edging timber required.

8. Calculate the length of decorative inlay strip needed.

Assessor comments and sign off:

<b>Comments:</b>	
Assessor name: .....	<b>RESULT:</b> A = Achieved, N = Not Yet Achieved
Assessor signature:.....	
Date:.....	