Design & Technology

Mathematics for D&T – Trigonometry

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

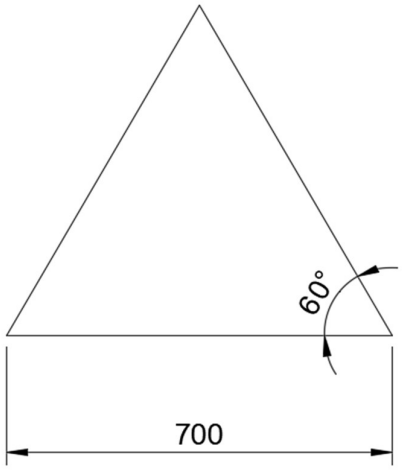
- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary

Advice

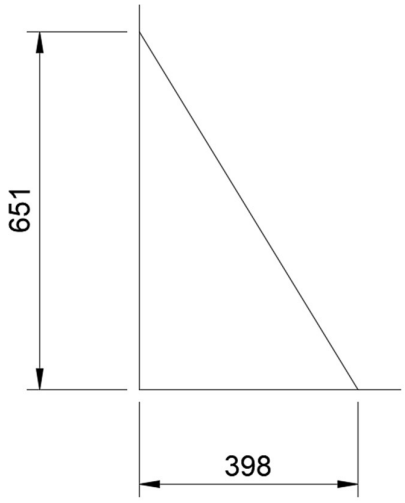
- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don’t spend too much time on one question

Good luck!

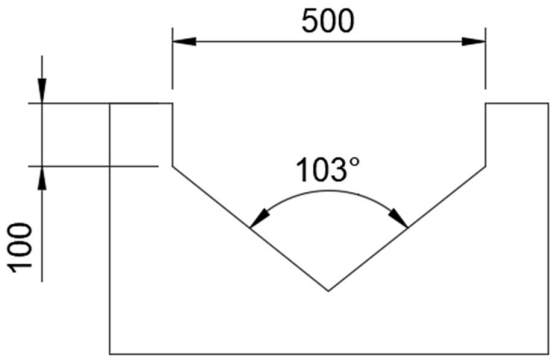
Q1. A manufacturer has designed a component but has forgotten to measure the height of the component. What is the perpendicular height of the component **(3 marks)**



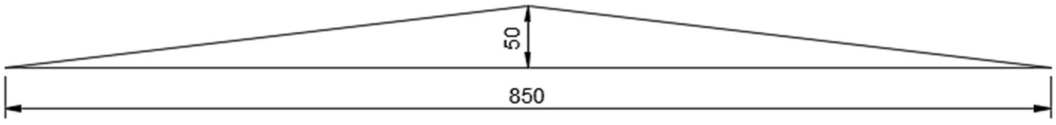
Q2. A ladder rests on a wall. The ladder is safe between an angle of 72 to 78 degrees. Is the ladder safe **(3 marks)**



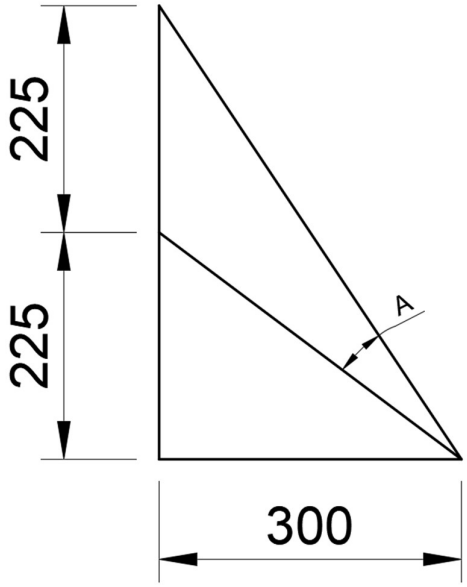
Q3. A vertical milling machine is cutting a channel through some material. Calculate the depth of the cut. All measurements are in mm **(4 marks)**



Q4. A shallow roof trust is being designed for a new school. Calculate the total perimeter of the roof truss and calculate the shallow roof angles. All measurements are in mm **(5 marks)**



Q5. Calculate angle A. All measurements are in mm **(3 marks)**



Answers

Q1.
606.2mm

Q2.
58.6^{o} – not safe

Q3.
298.9mm

Q4.
1705.9mm

Q5.
Total angle = 58.0
Angle A = 21.1