

National 5 Final Exam Practice

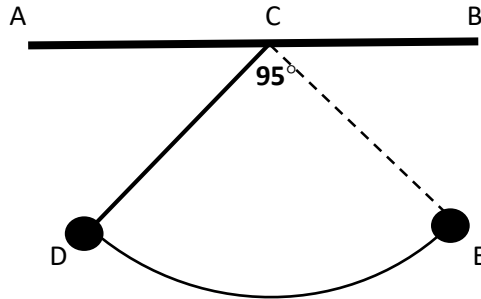
Geometric Skills

Working with Arcs and Sectors

Average Score

3 / 4 Marks

1. A rope swing with length 1.8 metres is attached to a rail AB as shown. It swings along an arc of a circle at centre C and through an angle of  $95^\circ$

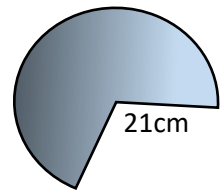


- a) Calculate the distance the swing travels along the arc DE.  
Give your answer correct to 3 significant figures.
- b) For safety, the swing should cover an area no more than 2.8 square metres when used.  
Is it safe to use the swing? Show all your working.

2. A hand held fan is to be made using silk material. It opens up to an angle of  $250^\circ$  and has a closed length of 21cm.

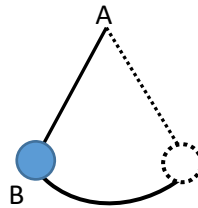
Find the length of ribbon required to decorate around the fan.

Give your answer correct to 3 significant figures.



3. A moving target swings through an angle of  $38^\circ$  and creates an arc 78cm long. Calculate the length of string attached to the target, represented by the line AB below.

Give your answer correct to 3 significant figures.



4. Best Pizza is cooking a new pizza. It will have a diameter of 38cm, be covered in cheese and pepperoni. The whole pizza has 160g of cheese evenly spread over the top.

- a) A slice is cut off with only 25g of cheese. What length of crust will be cut off in this slice?
- b) What area of pizza has been cut off?

Give both answers correct to 3 significant figures.



5. Work out the area of a sector with diameter 30cm and an angle at the centre of  $60^\circ$ . Leave your answer in terms of  $\pi$ .