21 The diagram shows a square $ABCD$ and a circle.

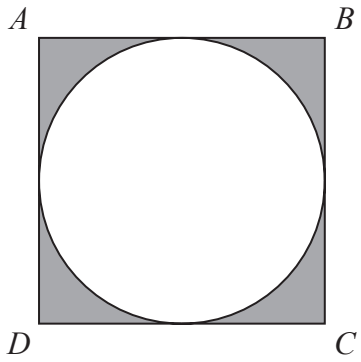


Diagram **NOT** accurately drawn

The sides of the square are tangents to the circle.

The total area of the shaded regions is $80\,cm^2$

Work out the length of AC
Give your answer correct to 3 significant figures.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

..... cm

(Total for Question 21 is 5 marks)

Turn over for Question 22