

20 The diagram shows a triangle.

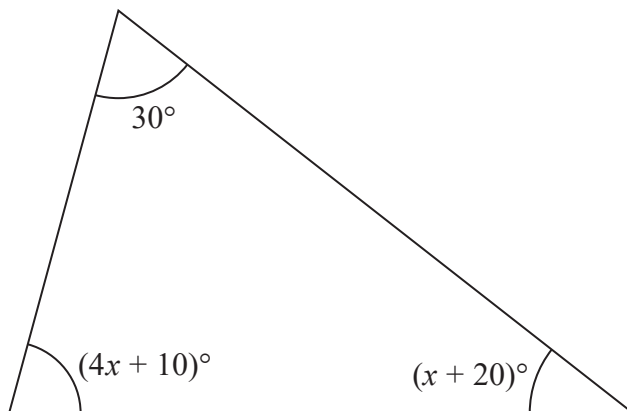


Diagram **NOT** accurately drawn

Work out the value of  $x$ .

$x = \dots\dots\dots$

**(Total for Question 20 is 4 marks)**

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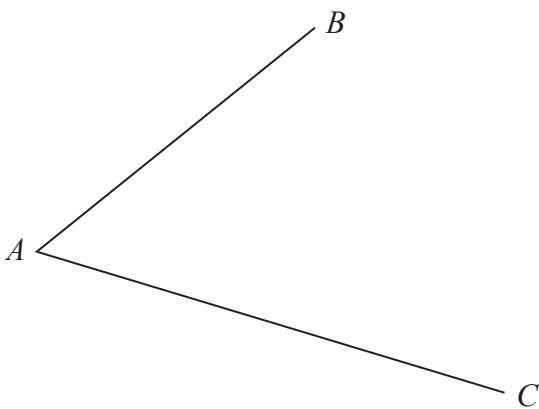


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- 21 Use ruler and compasses to construct the bisector of angle  $BAC$ .  
You must show all your construction lines.



(Total for Question 21 is 2 marks)



22 A bag contains only red beads, blue beads, green beads and yellow beads.

The table gives the probabilities that, when a bead is taken at random from the bag, the bead will be blue or the bead will be yellow.

<b>Colour</b>	<b>red</b>	<b>blue</b>	<b>green</b>	<b>yellow</b>
<b>Probability</b>		0.24		0.31

The probability that the bead will be green is twice the probability that the bead will be red.

Sofia takes at random a bead from the bag.

She writes down the colour of the bead and puts the bead back into the bag.

She does this 180 times.

Work out an estimate for the number of times she takes a red bead from the bag.

.....  
(Total for Question 22 is 4 marks)



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23 (a) Solve the inequality  $2x + 7 > 4$

.....  
(2)

(b) Solve  $x^2 - 3x - 40 = 0$   
Show clear algebraic working.

.....  
(3)

(Total for Question 23 is 5 marks)

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- 24 The table shows the cost, in euros, of Brigitte's car insurance in each of the years 2016, 2017 and 2018

Year	2016	2017	2018
Cost of insurance (euros)	500	545	592

Brigitte says,

“The percentage increase in the cost of my car insurance from 2017 to 2018 is more than the percentage increase in the cost of my car insurance from 2016 to 2017”

- (a) Is Brigitte correct?  
You must show how you get your answer.

(4)

Henri wants to insure his car.

He gets a discount of 15% off the normal price.

Henri pays 952 euros for his car insurance after the discount.

- (b) Work out the discount that Henri gets.

..... euros

(3)

(Total for Question 24 is 7 marks)



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25 The density of gold is  $19.3 \text{ g/cm}^3$   
A gold bar has volume  $150 \text{ cm}^3$

Work out the mass of the gold bar.

..... g

(Total for Question 25 is 2 marks)

26 Change a speed of 50 metres per second to a speed in kilometres per hour.

..... kilometres per hour

(Total for Question 26 is 3 marks)



- 27 The diagram shows a shaded shape  $ABCD$  made from a semicircle  $ABC$  and a right-angled triangle  $ACD$ .

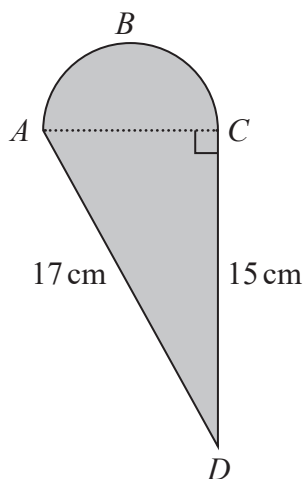


Diagram NOT accurately drawn

$AC$  is the diameter of the semicircle  $ABC$ .

Work out the perimeter of the shaded shape.

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 27 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

