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10 Here is a sketch of triangle  $ABC$ .

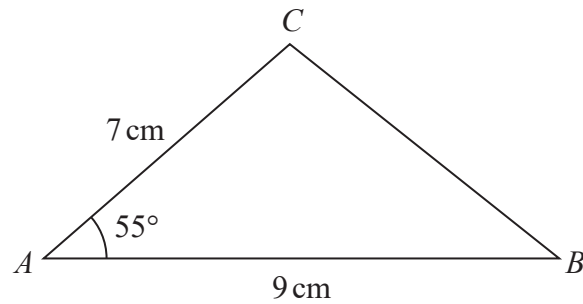
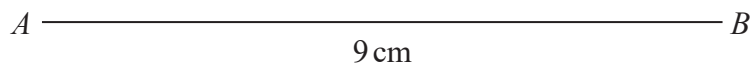


Diagram **NOT** accurately drawn

In the space below, make an accurate drawing of triangle  $ABC$ .  
The line  $AB$  has been drawn for you.



(Total for Question 10 is 2 marks)



11 (a) Factorise  $3x^2 - x$

(1)

(b) Expand  $4(2y + 3)$

(1)

$$C = 5a + 4d$$

(c) Work out the value of  $C$  when  $a = -3$  and  $d = 6$

$$C =$$

(2)

$$P = 3t^2 + 7t$$

(d) Work out the value of  $P$  when  $t = -4$

$$P =$$

(2)

(Total for Question 11 is 6 marks)



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12 The diagram shows the plan of the floor in a room.

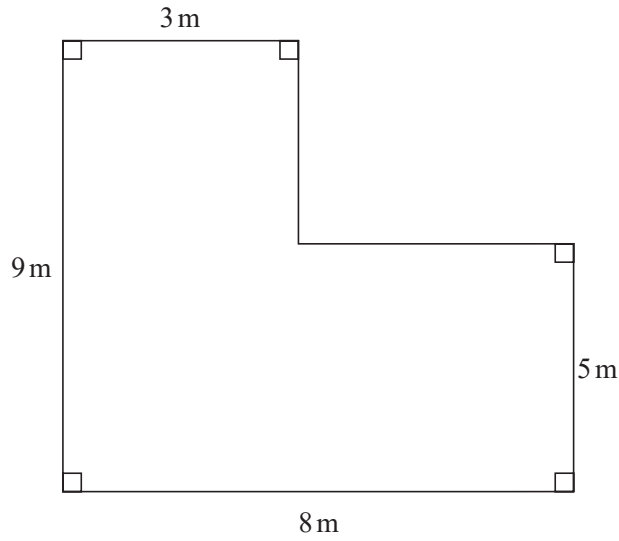


Diagram NOT accurately drawn

Alonso is going to cover the floor once with polish.  
He buys some tins of polish.

Each tin has enough polish to cover  $14\text{m}^2$  of the floor.  
Each tin costs 9.59 euros.

Work out the total cost of the tins that Alonso needs to buy.

euros

(Total for Question 12 is 5 marks)



13 (a) Solve  $7x + 3 = x - 18$

$$x = \quad (2)$$

(b) Make  $w$  the subject of  $t = 7w + 3$

(2)

Pencils cost 2 dollars each.  
Rulers cost 3 dollars each.

Edith buys  $p$  pencils and  $r$  rulers.  
The total cost is  $T$  dollars.

(c) Write down a formula for  $T$  in terms of  $p$  and  $r$ .

(3)

(Total for Question 13 is 7 marks)



14

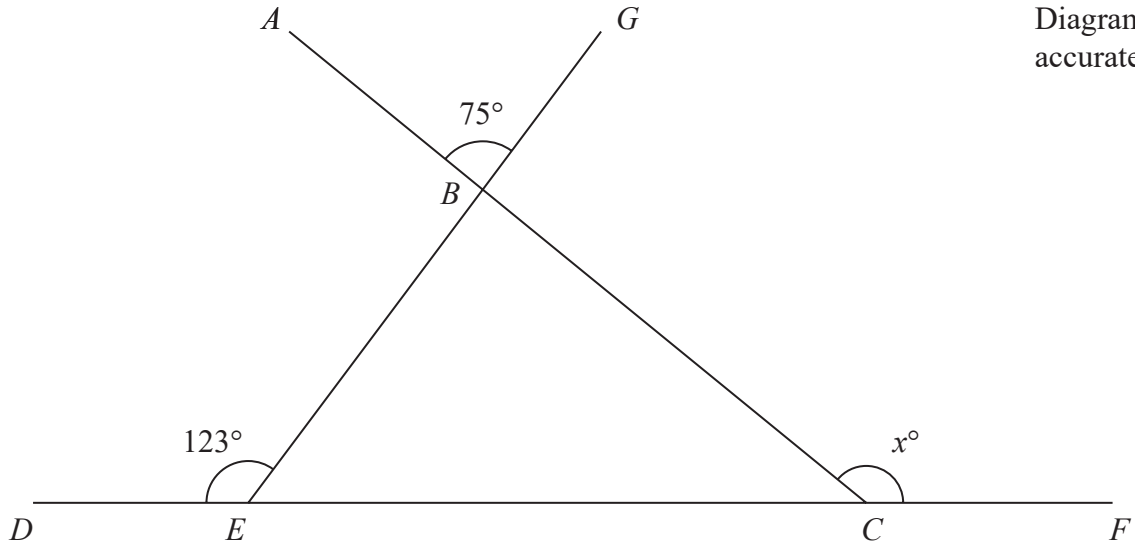


Diagram **NOT** accurately drawn

$ABC$ ,  $DECF$  and  $EBG$  are straight lines.

Work out the value of  $x$ .

Give a reason for each stage of your working.

$x =$

(Total for Question 14 is 4 marks)

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- 15 The table gives information about the number of days that 100 cars were in an airport car park.

Number of days ( $d$ )	Frequency
$0 < d \leq 4$	16
$4 < d \leq 8$	18
$8 < d \leq 12$	19
$12 < d \leq 16$	27
$16 < d \leq 20$	20

- (a) Write down the modal class.

(1)

- (b) Work out an estimate for the mean number of days.

(4)

days

(Total for Question 15 is 5 marks)

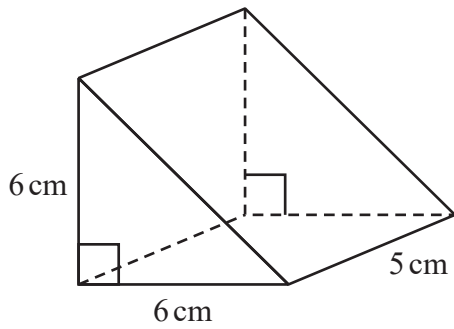


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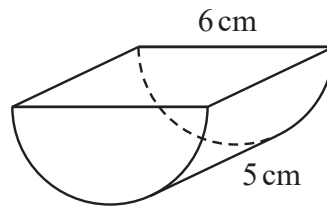
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16 The diagram shows two solid toy bricks, Brick A and Brick B.



Brick A



Brick B

Diagram NOT accurately drawn

Brick A is a triangular prism of length 5 cm.  
The cross section of Brick A is an isosceles right-angled triangle with equal sides of length 6 cm.

Brick B is half a cylinder of length 5 cm.  
The semicircular cross section of Brick B has diameter 6 cm.

The volume of Brick A is greater than the volume of Brick B.

How much greater?  
Give your answer correct to 1 decimal place.

cm<sup>3</sup>

(Total for Question 16 is 4 marks)

