

20  $ABC$  and  $DEF$  are similar triangles.

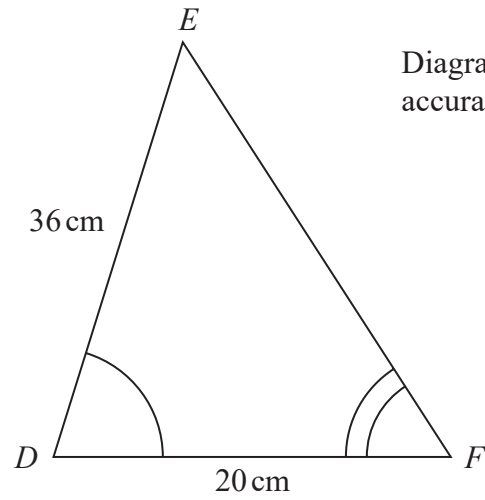
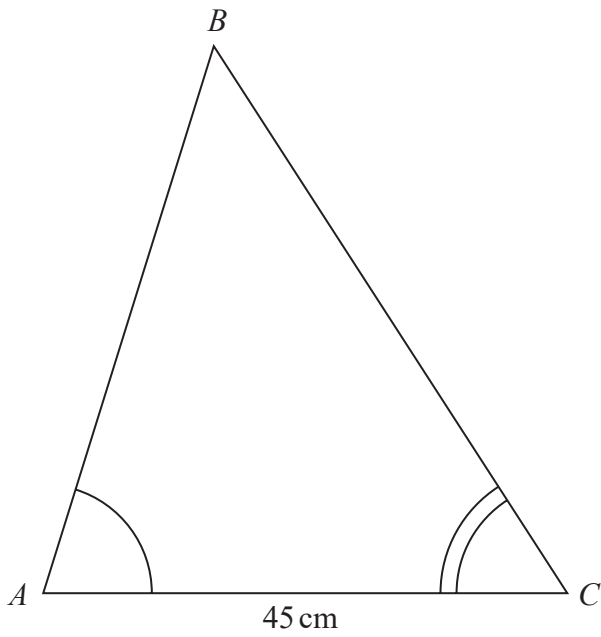


Diagram NOT accurately drawn

(a) Work out the length of  $AB$ .

..... cm  
(2)

Given that  $BC = 54\text{ cm}$ ,

(b) work out the length of  $EF$ .

..... cm  
(2)

(Total for Question 20 is 4 marks)

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21 The diagram shows a regular octagon  $ABCDHIJK$  and a pentagon  $DEFGH$ .

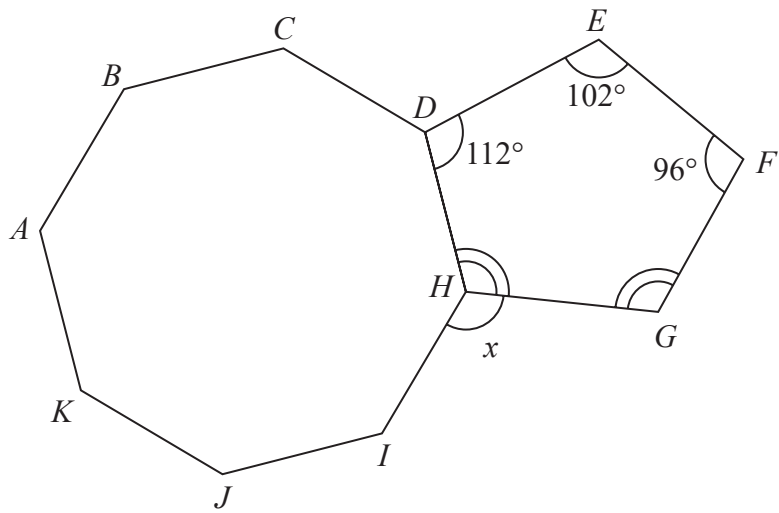


Diagram **NOT** accurately drawn

Angle  $GHD =$  angle  $FGH$ .

Work out the size of the angle marked  $x$ .  
Show your working clearly.

(Total for Question 21 is 5 marks)



P 6 5 9 1 7 R A 0 1 9 2 4

22 Victor buys 12 bottles of apple juice for a total cost of \$21  
Victor sells all 12 bottles at \$2.45 each bottle.

Work out Victor's percentage profit.

.....%

**(Total for Question 22 is 3 marks)**

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23 Ali and Badia each have 25 000 dollars to invest.

<b>Cyclone Bank</b>	<b>Tornado Bank</b>
Invest 25 000 dollars 4.5% compound interest per year for 3 years	Invest 25 000 dollars Receive 1150 dollars interest each year for 3 years

Ali invests in the Cyclone Bank for 3 years.  
Badia invests in the Tornado Bank for 3 years.

By the end of the 3 years, Ali will have received more interest than Badia.

How much more?  
Show your working clearly.  
Give your answer correct to the nearest dollar.

..... dollars

**(Total for Question 23 is 4 marks)**



24 (a) Simplify  $(3x^2y)^0$

.....  
(1)

(b) (i) Factorise  $x^2 - 5x - 36$

.....  
(2)

(ii) Hence solve  $x^2 - 5x - 36 = 0$

.....  
(1)

**(Total for Question 24 is 4 marks)**

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- 25 A rainwater tank contains  $2.4 \times 10^7$  raindrops.  
The rainwater tank also contains  $1.75 \times 10^6$  bacteria.

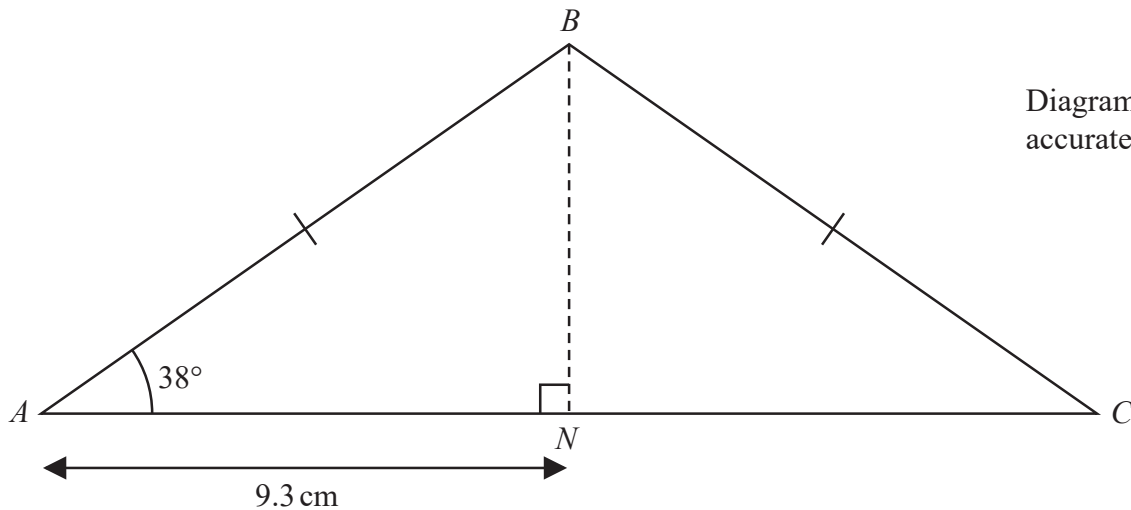
Work out the number of bacteria per raindrop in the tank.  
Give your answer in standard form correct to 2 significant figures.

.....  
(Total for Question 25 is 3 marks)

Turn over for Question 26



26  $ABC$  is an isosceles triangle with  $BA = BC$ .



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$N$  is the point on  $AC$  such that  $AN = 9.3$  cm and  $BN$  is perpendicular to  $AC$ .

Work out the perimeter of triangle  $ABC$ .

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 26 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

