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- 15 Toy cars are made in a factory.  
The toy cars are made for 15 hours each day.  
5 toy cars are made every 12 seconds.

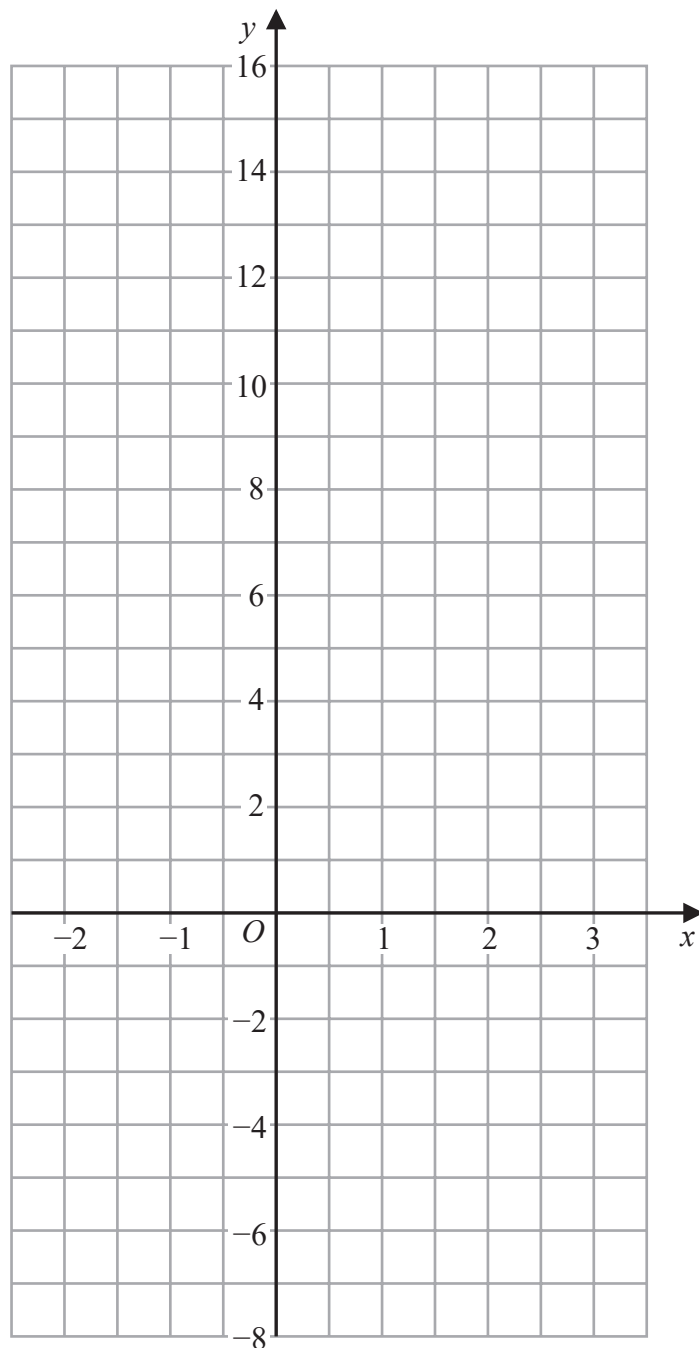
For the toy cars made each day, the probability of a toy car being faulty is 0.002

Work out an estimate of the number of faulty toy cars that are made each day.

.....  
**(Total for Question 15 is 4 marks)**



16 On the grid, draw the graph of  $y = 7 - 4x$  for values of  $x$  from  $-2$  to  $3$



(Total for Question 16 is 3 marks)

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17 Here is a list of six numbers written in order of size.

4      7       $x$       10       $y$        $y$

The numbers have

a median of 9

a mean of 11

Find the value of  $x$  and the value of  $y$ .

$x =$  .....

$y =$  .....

**(Total for Question 17 is 4 marks)**



18 (a) Write  $5.7 \times 10^{-3}$  as an ordinary number.

.....  
(1)

(b) Write 800 000 in standard form.

.....  
(1)

(c) Work out  $\frac{3 \times 10^5 - 2.7 \times 10^4}{6 \times 10^{-2}}$

.....  
(2)

**(Total for Question 18 is 4 marks)**

19 A rocket travelled 100 km at an average speed of 28 440 km/h.

Work out how long it took the rocket to travel the 100 km.  
Give your answer in seconds, correct to the nearest second.

..... seconds

**(Total for Question 19 is 3 marks)**



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20 (a) Solve  $5(4 - x) = 7 - 3x$   
Show clear algebraic working.

$x = \dots\dots\dots$   
(3)

(b) Factorise fully  $16m^3g^3 + 24m^2g^5$

$\dots\dots\dots$   
(2)

(c) (i) Factorise  $y^2 - 2y - 48$

$\dots\dots\dots$   
(2)

(ii) Hence, solve  $y^2 - 2y - 48 = 0$

$\dots\dots\dots$   
(1)

(Total for Question 20 is 8 marks)



21 Here is a 10-sided polygon.

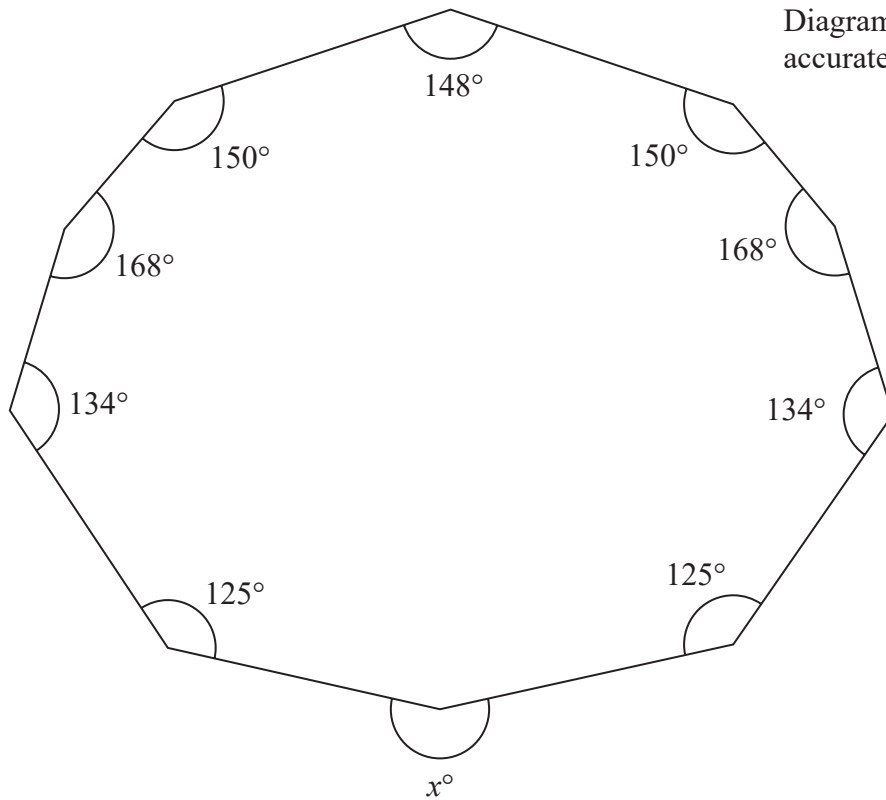


Diagram **NOT** accurately drawn

Work out the value of  $x$ .

$x = \dots\dots\dots$

(Total for Question 21 is 4 marks)

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22 In a sale, normal prices are reduced by 20%

A bag costs 1080 rupees in the sale.

Work out the normal price of the bag.

..... rupees

(Total for Question 22 is 3 marks)



23  $A = 2 \times 3^{43}$   
 $B = 16 \times 3^{37}$

(a) Find the highest common factor (HCF) of  $A$  and  $B$ .

.....  
(1)

(b) Express the number  $A \times B$  as a product of powers of its prime factors.  
Give your answer in its simplest form.

.....  
(2)

(Total for Question 23 is 3 marks)

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TOTAL FOR PAPER IS 100 MARKS

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