

A

5 On 1st May 2012, the cost of 5.7 grams of gold was 15 960 rupees.

(a) Work out the cost, in rupees, of 4.6 grams of gold on the same day.

..... rupees  
(2)

The cost of gold decreased by 7.5% from 1st May 2012 to 1st May 2013

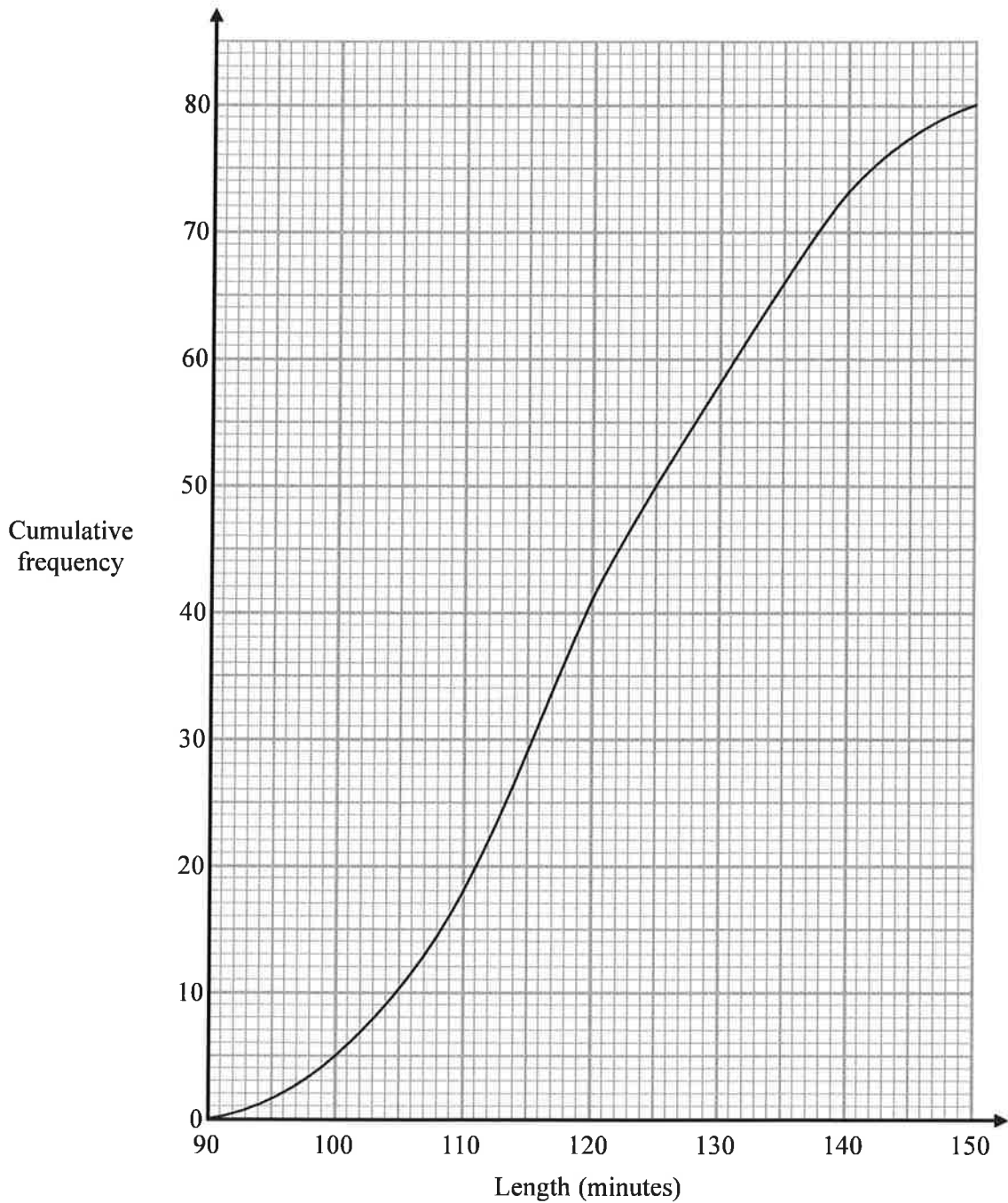
(b) Work out the cost, in rupees, of 5.7 grams of gold on 1st May 2013

..... rupees  
(3)

(Total for Question 5 is 5 marks)



10 The cumulative frequency graph shows information about the length, in minutes, of each of 80 films.



(a) Find an estimate for the interquartile range.

..... minutes  
(2)



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(b) Find an estimate for the percentage of the 80 films that lasted more than 125 minutes.

..... %

(3)

**(Total for Question 10 is 5 marks)**

11  $x$  is an integer.

The Lowest Common Multiple (LCM) of  $x$  and 12 is 120

The Highest Common Factor (HCF) of  $x$  and 12 is 4

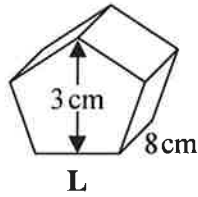
Work out the value of  $x$ .

$x =$  .....

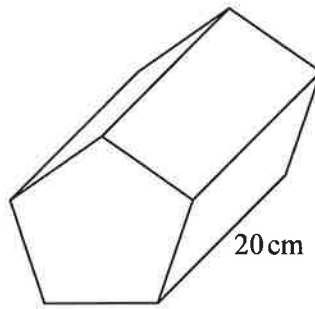
**(Total for Question 11 is 2 marks)**



14 **L** and **M** are two mathematically similar prisms.



L



M

Diagram **NOT**  
accurately drawn

Prism **L** has length 8 cm.  
Prism **M** has length 20 cm.

Prism **L** has height 3 cm.

(a) Work out the height of prism **M**.

..... cm  
(2)

Prism **M** has a volume of  $1875 \text{ cm}^3$

(b) Work out the volume of prism **L**.

.....  $\text{cm}^3$   
(2)

(Total for Question 14 is 4 marks)

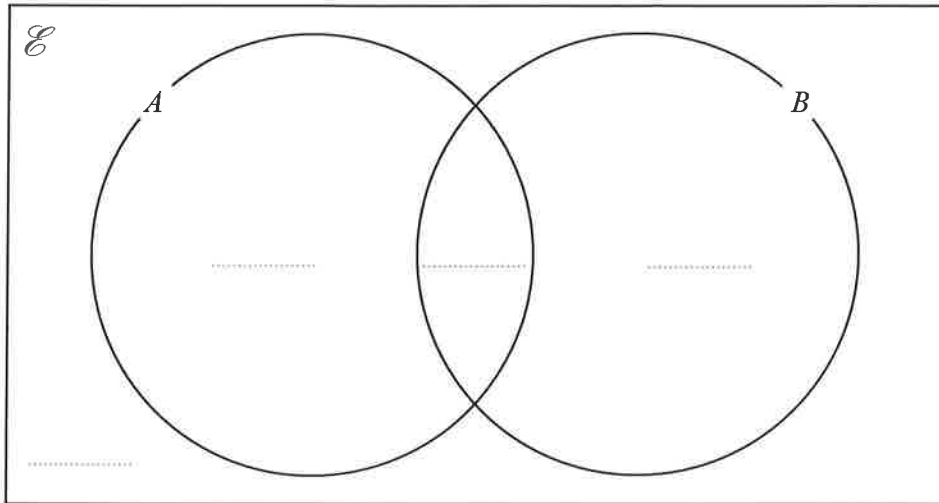


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18  $A$  and  $B$  are two sets.

$$\begin{aligned}n(\mathcal{E}) &= 36 \\n(B) &= 21 \\n(A \cap B) &= 8 \\n(A') &= 18\end{aligned}$$

(a) Complete the Venn diagram to show the **number of elements** in each region of the Venn diagram.



(3)

(b) Find  $n(A \cup B)$

.....  
(1)

(c) Find  $n(A \cap B')$

.....  
(1)

(Total for Question 18 is 5 marks)



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20  $n$  is a positive integer.

(a) Explain why  $2n + 1$  is an odd number for all values of  $n$ .

.....

.....

.....

(1)

(b) Show, using algebra, that the sum of any 4 consecutive odd numbers is always a multiple of 8

(3)

(Total for Question 20 is 4 marks)

