

A Maths Question, PSLE 2023

Colin had some badges, postcards and magnets. He had 85 badges. $\frac{3}{10}$ of his items were postcards. He had 51 less postcards than magnets.

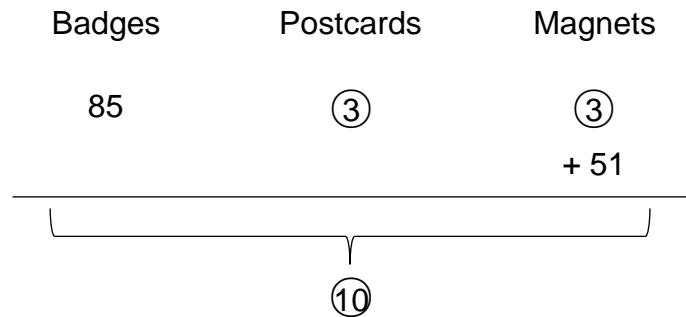
a) How many postcards did he have?

b) He gave some postcards away. The total collection decreased by 20%. What was the new percentage of postcards he had in the end?

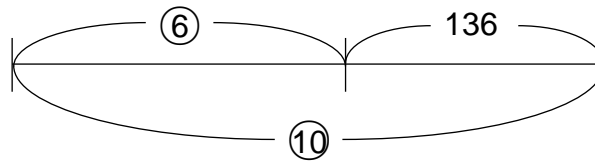
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<G.R.>

Let ⑩ be the number of total collection at first.



<Diagram>



<Writing>

$$85 + 51 = 136$$

$$\textcircled{3} + \textcircled{3} = \textcircled{6}$$

$$\textcircled{10} - \textcircled{6} = \textcircled{4} \quad \rightarrow 136$$

$$136 \div \textcircled{4} = 34 \quad \rightarrow \textcircled{1}$$

$$34 \times 3 = 102 \quad \rightarrow \text{a) Postcards}$$

$$102 + 51 = 153 \quad \rightarrow \text{Magnets}$$

$$85 + 102 + 153 = 340 \quad \rightarrow \text{Total at first}$$

$$340 \times \frac{20}{100} = 68 \quad \rightarrow \text{Postcards given away}$$

$$102 - 68 = 34 \quad \rightarrow \text{Postcards in the end}$$

$$340 - 68 = 272 \quad \rightarrow \text{Total at last}$$

$$\frac{34}{272} \times 100 = 12.5 (\%) \quad \rightarrow \text{b)}$$

Answer a) 102 b) 12.5%