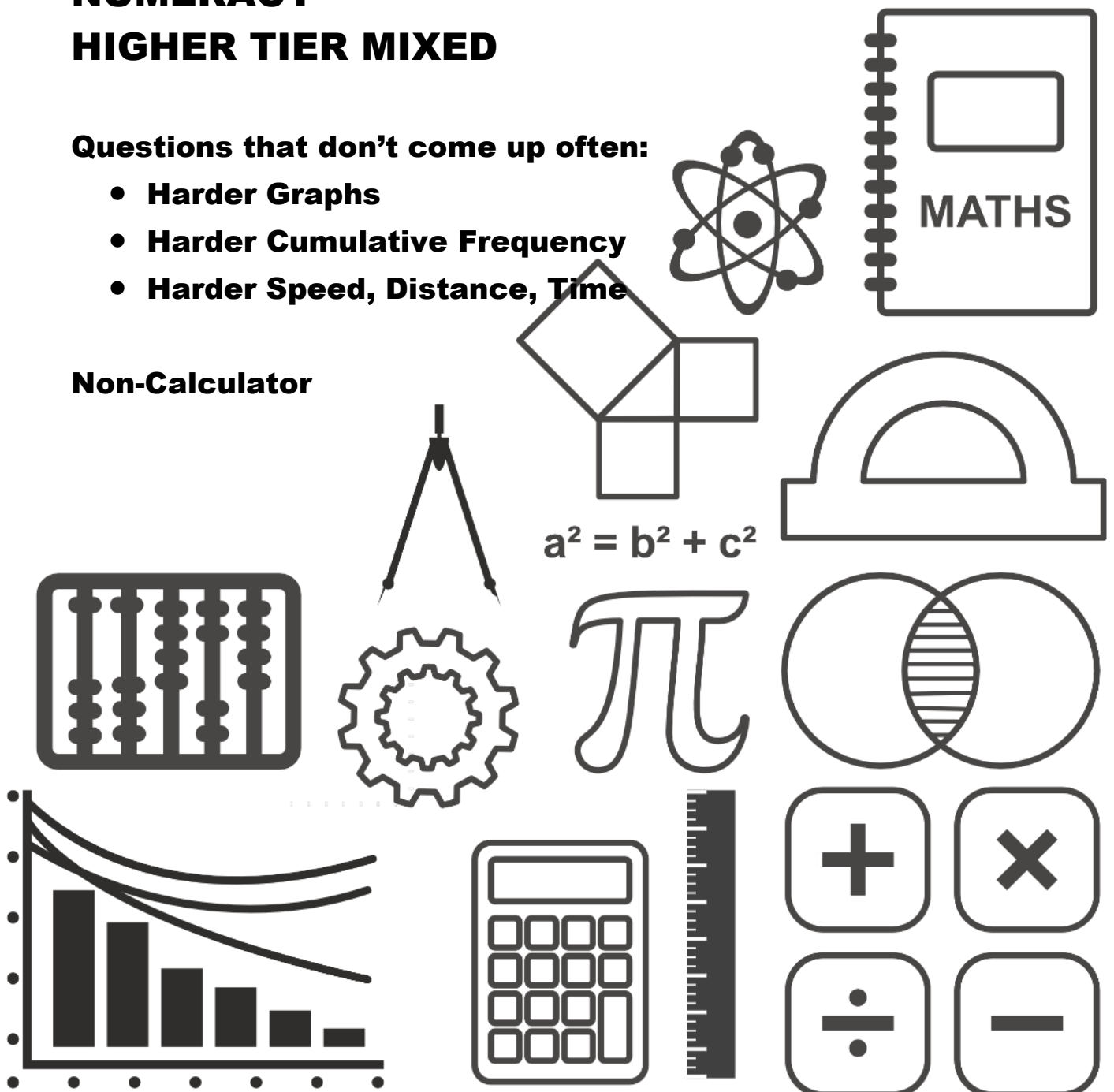


GCSE TOPIC BOOKLET NUMERACY HIGHER TIER MIXED

Questions that don't come up often:

- Harder Graphs
- Harder Cumulative Frequency
- Harder Speed, Distance, Time

Non-Calculator



1. Carwyn owns a car and a motorcycle.

Carwyn bought the motorcycle for £9600.
At the end of each year of owning the motorcycle, Carwyn had the motorcycle valued.



Each year the motorcycle lost $\frac{1}{5}$ of its value at the start of the year.

- (i) Carwyn used the method $9600 \times \frac{1}{5} \times \frac{1}{5}$ to calculate the value of the motorcycle after 2 years.

Explain why Carwyn's method is incorrect.

[1]

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- (ii) Write down a **formula** for the value V , in pounds, of Carwyn's motorcycle after he has owned the motorcycle for t years. [3]

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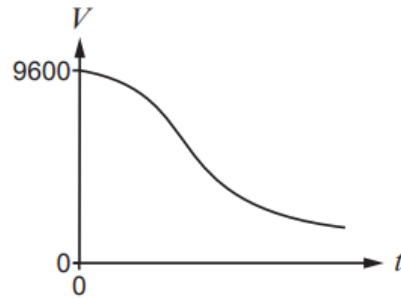
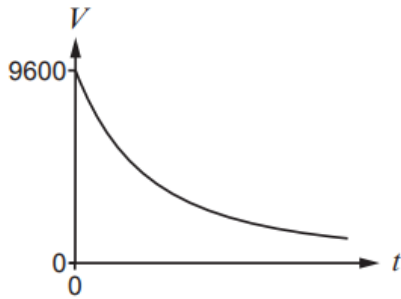
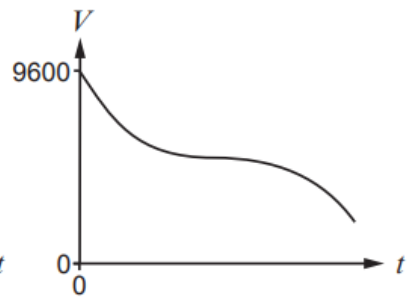
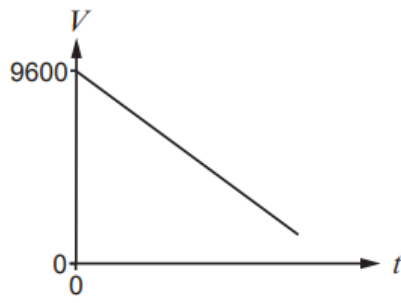
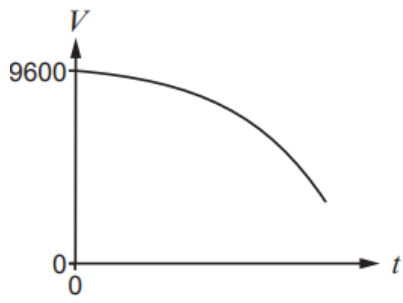
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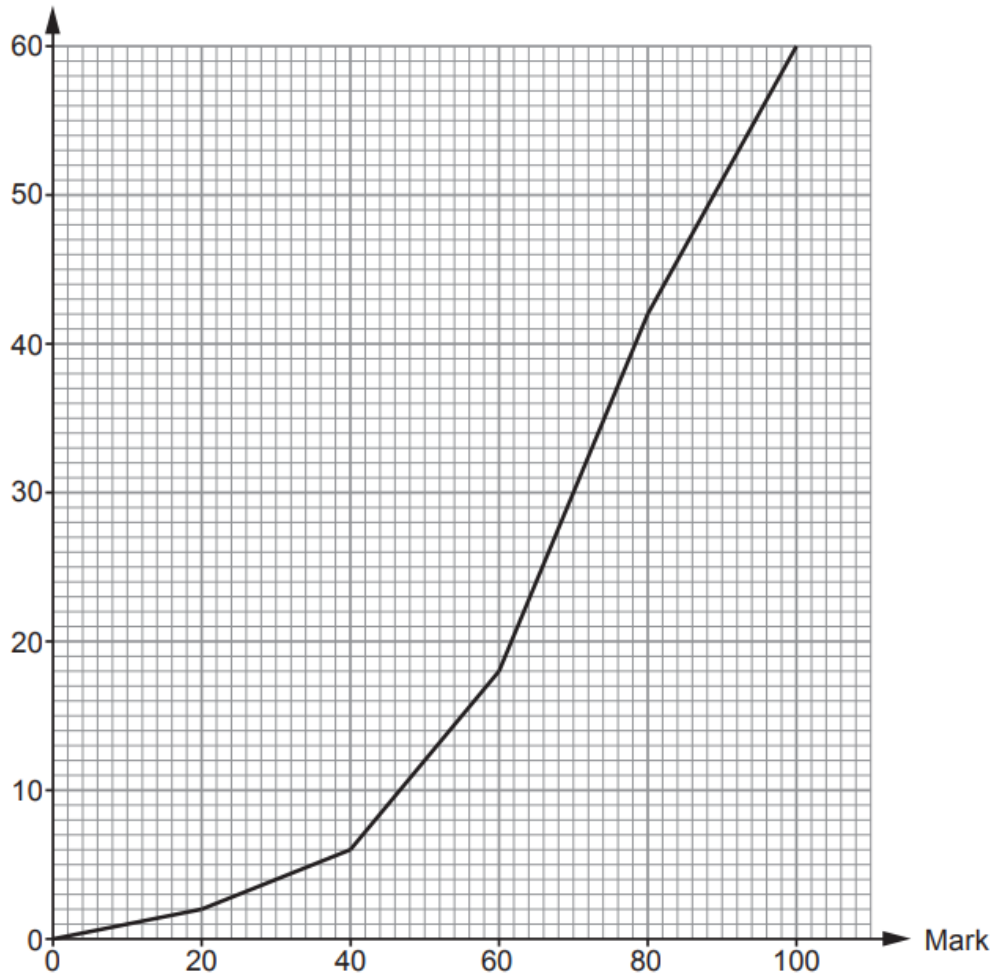
(iii) Which one of the following best represents the graph of V against t ?
Circle your answer.

[1]



2. A group of pupils sat a mathematics test. The teacher grouped their marks using the intervals 1 to 20, 21 to 40, and so on. She then drew the following cumulative frequency diagram to display the results.

Cumulative frequency



- (a) Phoebe is one of the pupils who sat the test. Phoebe says, 'The cumulative frequency diagram shows that the median mark was 70.'

Explain why the median mark may not be 70.

[1]

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