

AQA GCSE Mathematics Calculator 2024 Higher Paper 2 Revision Worksheet

Questions 6–16

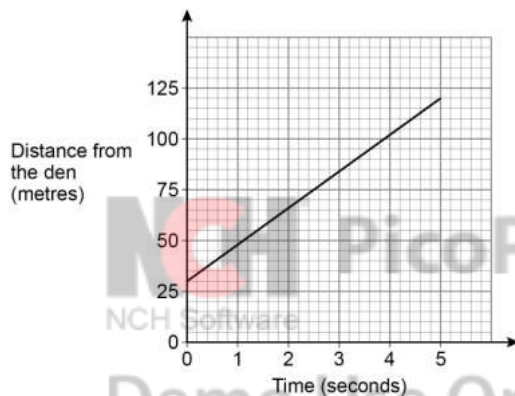
6 Work out $(2.5 \times 10^4)^{-3}$. Give your answer in standard form.

7 Archie flips a biased coin 200 times. Here is some information about the outcomes after each 50 flips.

Total number of flips	50	100	150	200
Number of heads	10	27	37	52

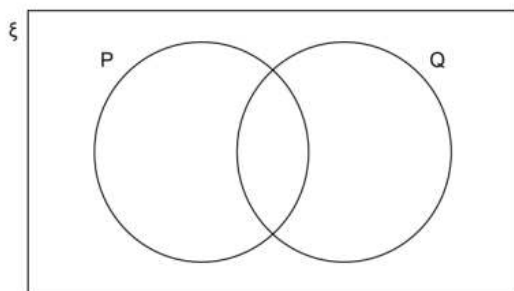
Work out the best estimate for the probability of flipping a head. **Give a reason for your answer.**

8 A lion is sprinting in a straight line away from its den. The graph shows the lion's distance from the den.



Work out the speed of the lion in metres per second.

9 On the Venn diagram, shade the section represented by $P \cap Q$

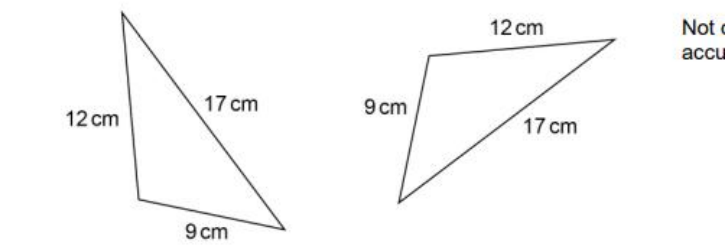


10 A bus route had 90,000 passengers last year. The number of passengers was predicted to increase by 3% this year and then by 8% next year.

Is the predicted number of passengers for next year more than 100,000? **You must show your working**

11 A map has a scale of 1 : 20,000 Two churches are 15 cm apart on the map. Work out the actual distance between them. Give your answer in kilometres.

12



Circle the reason why these triangles are congruent.

ASA RHS SAS SSS

13

Liam takes part in long jump competitions. Here is some information about 40 of his jumps.

Length of jump, d metres	Number of jumps	Midpoint	
$7.0 \leq d < 7.4$	15		
$7.4 \leq d < 7.8$	18		
$7.8 \leq d < 8.2$	7		
Total = 40			

Work out an estimate of the mean distance of these 40 jumps. Give your answer as a decimal.

14

A graph passes through the points (3, 15) and (7, w)

14 (a)

Assume that the equation of the graph has the form $y = x^2 + c$ Work out the value of w that this would give.

14 (b)

In fact, the graph is a straight line. What does this mean about the actual value of w ? Tick one box. [1 mark]

- It must be the same as the value in part (a)
- It must be different to the value in part (a)
- It is impossible to tell

15

Concrete from a truck is poured at 10.9 kg per second for 30 minutes.

Is more than 20 tonnes of concrete poured? Tick a box.

- Yes
- No

You must show your working. [4 marks]

1000 kg = 1 tonne

16

Here is some information about the lengths, in cm, of leaves:

- Shortest length = 2.4
- Longest length = 9
- Upper quartile = 7
- Median length = 6
- Interquartile range = 3

Draw a box plot to show this information. [3 marks]

