

GCSE Revision – A Bit of Everything

CCEA - GCSE Higher

Unit M4



Corbettmaths

This is a collection of questions from all the topics on the revision checklist

Guidance

1. Check your answers seem right.
2. Always show your workings
3. Take your time when working through this collection of questions

Revision for this test

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* Remember to check out the A Bit of Everything for M1, M2 & M3*

1. (a) Factorise $2y^2 + 7y - 15$

.....
(2)

(b) Factorise fully $4y^2 - 49$

.....
(2)

2. (a) Simplify

$$\frac{x^2 + 17x + 70}{5x^2 + 38x + 21}$$

.....
(3)

(b) Express as a single fraction

$$\frac{4}{x+5} - \frac{2}{x-1}$$

.....
(3)

3. Solve

$$\frac{7}{x+2} + \frac{10}{2x-5} = 3$$

.....
(5)

4. A rectangular field has a width of x metres.
The length of the field is 25 metres greater than twice the width of the field.

The area of the field is 450m^2

Work out the length of the field.

.....
(5)

5. Solve the equation $4x^2 + x - 7 = 0$

Give your answers to one decimal place.

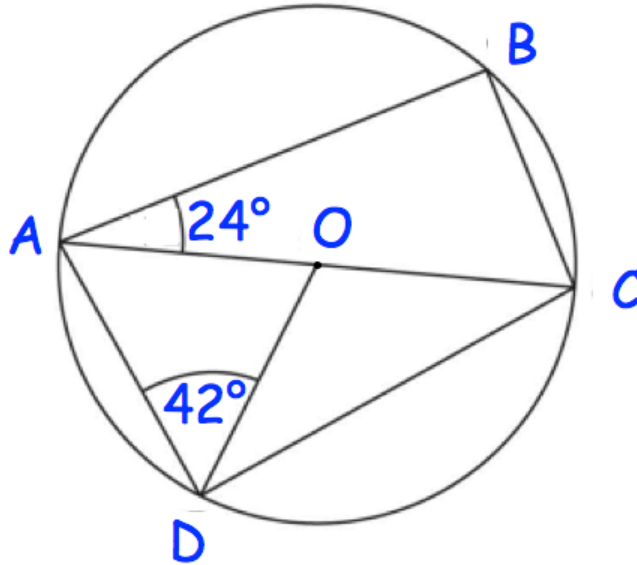
$x = \dots\dots\dots$ or $x = \dots\dots\dots$
(3)

6. A straight line, L , is perpendicular to the line with equation $y = 2x + 3$
 L passes through the point $(10, 3)$

Find an equation for the straight line L .

.....
(3)

7.



In the diagram O is the centre of the circle.
AOC is a straight line.
Angle BAO is 24° and Angle ADO is 42°

(a) Find the size of angle CAD.

.....°
(1)

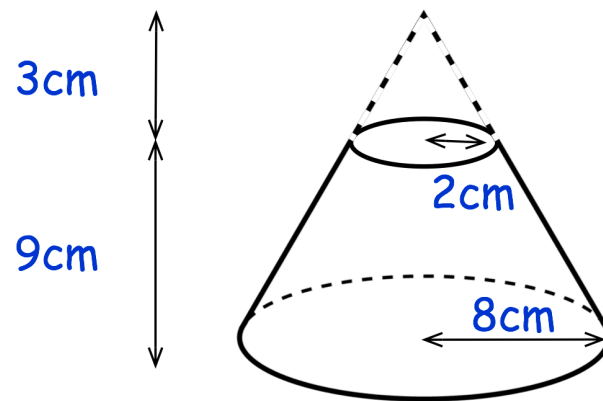
(b) Find the size of angle ACB.

.....°
(1)

(c) Find the size of angle BCD.

.....°
(1)

8. A frustum is formed by removing a smaller cone from the top of a larger cone.



Find the volume of the frustum.

.....cm³
(4)

9. The table shows the holiday destinations of some tourists.

Spain	Portugal	France	Italy
48	66	102	84

A stratified sample of 50 is planned.

Calculate the number of visitors to each country that should be selected.

Spain

Portugal

France

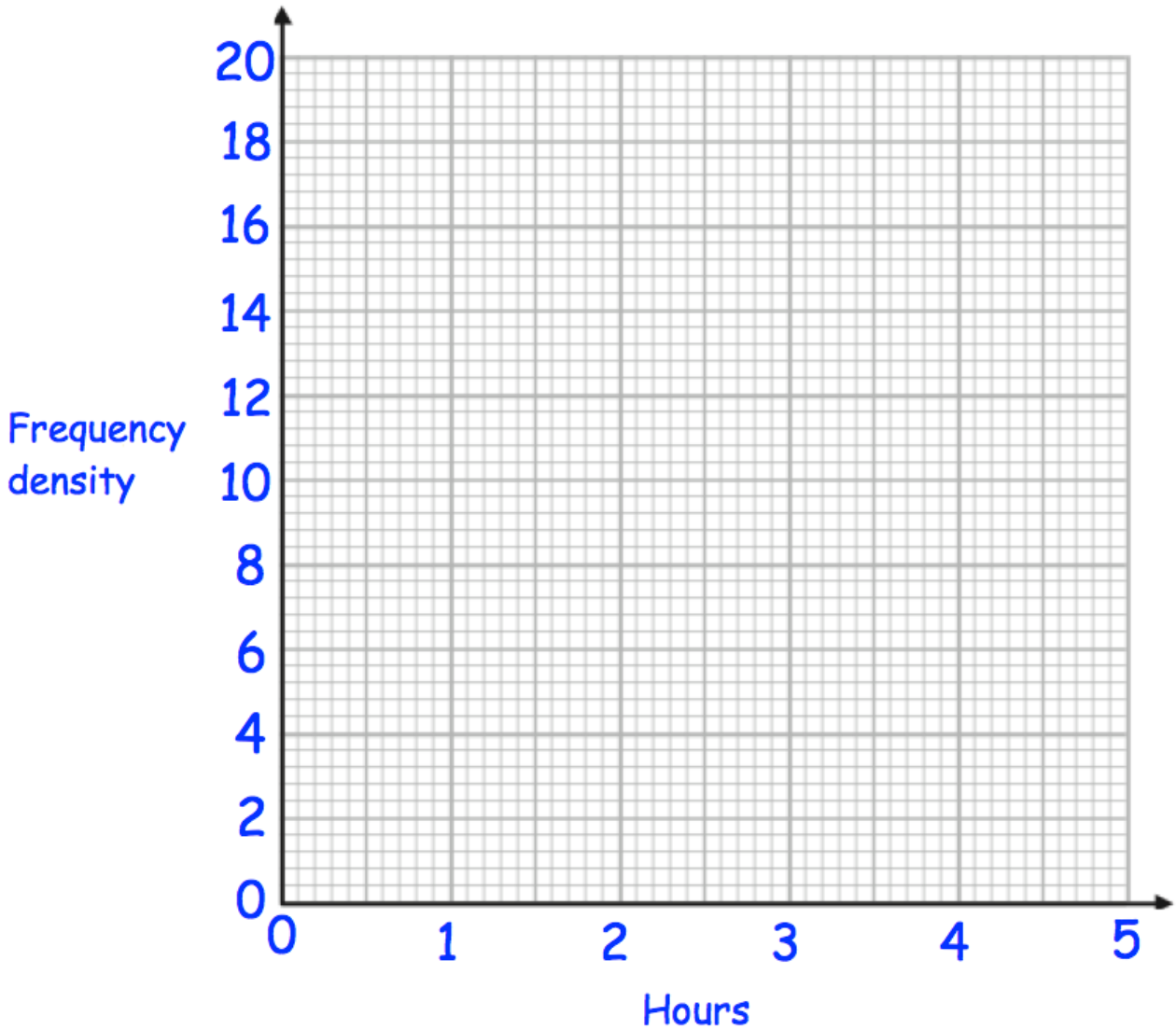
Italy

(3)

10. The waiting times, h hours, for 40 patients at an accident and emergency department in one evening is shown below.

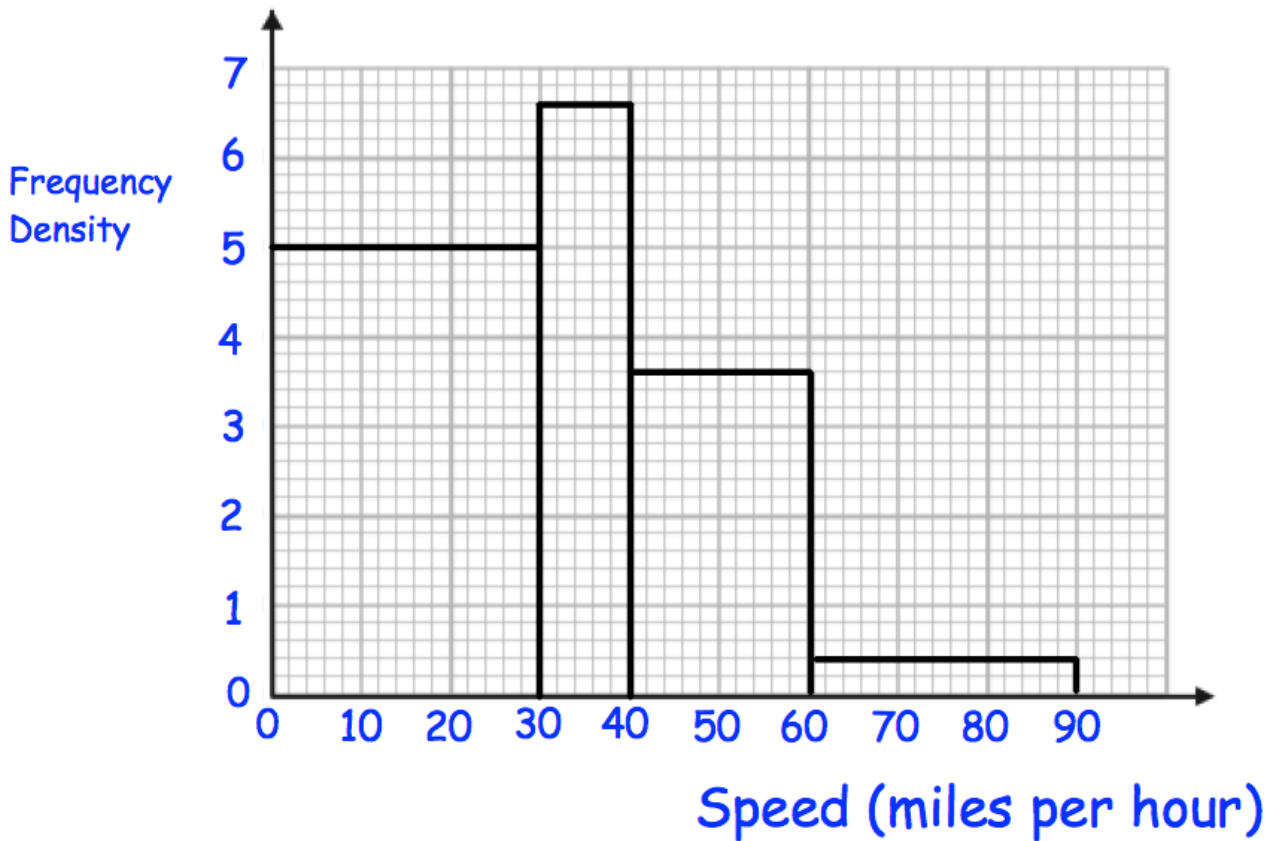
Waiting time, h	Frequency
$0 < h \leq 0.5$	8
$0.5 < h \leq 1$	10
$1 < h \leq 1.5$	7
$1.5 < h \leq 3$	9
$3 < h \leq 5$	6

Draw a histogram for this data.



(3)

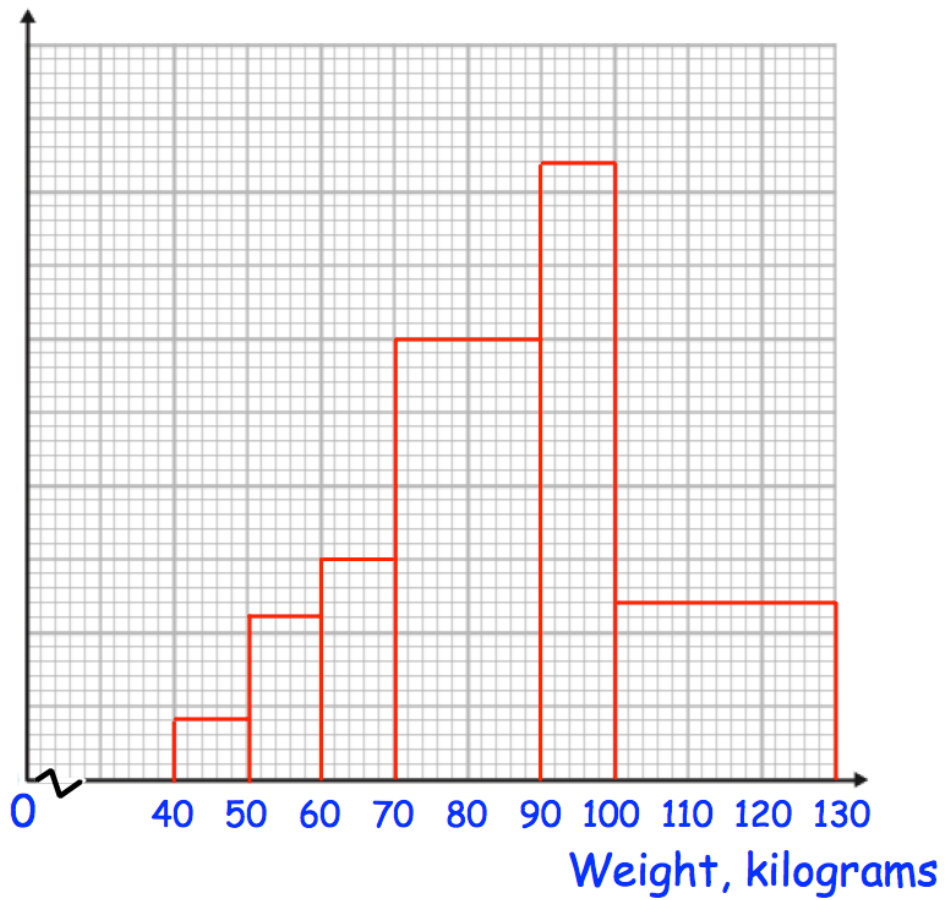
11. The histogram shows information about the speeds, in miles per hour, that cars travelled through a village. The speed limit is 60mph.



Work out the percentage of cars that were under the speed limit of 60mph.

.....
(3)

12. The histogram shows the weights in kilograms of 504 athletes.



45 athletes weigh under 60kg.

(a) Calculate an estimate of the number of athletes between 70 and 95kg.

.....
(4)

(b) Calculate an estimate of the median.

.....
(4)

13. The curved surface area of a cone is given by the formula

$$A = \pi r l$$

where A is the curved surface area
 r is the radius of the base of the cone
and l is the slant height

Given $A = 220 \text{ cm}^2$ correct to 3 significant figures,
and $r = 8 \text{ cm}$ correct to 1 significant figure.

Calculate the upper bound for l .

.....cm
(3)