

GCSE Revision – A Bit of Everything

CCEA - GCSE Foundation

Unit M2



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 *

1. Work out

(a) 9^3

.....
(1)

(b) 3^4

.....
(1)

2. (a) Simplify $m^5 \times m^3$

.....
(1)

(b) Simplify $m^8 \div m^2$

.....
(1)

3. Write 80 as a product of its prime factors.
Give your answer in index form.

.....
(2)

4. Find the lowest integer by which 80 would need to be multiplied by to give a cube number.

.....
(2)

5. Trains leave Bristol
- to Cardiff every 15 minutes
to London every 21 minutes

A train to Cardiff and a train to London both leave Bristol at 11am.

At what time will a train to Cardiff and a train to London next leave Bristol at the same time?

.....
(3)

6. Timothy orders the following items at a restaurant.

- 4 pizzas at £4.49 each.
- 2 garlic breads at £3.10 each.
- 2 orange juices at £1.19 each.
- 2 sparkling water at 99p each.

Complete the bill below.

Corbett Cuisine		
	£	pence
4 pizzas at £4.49	17	96
2 garlic bread at £3.10		
2 orange juice at £1.19		
2 sparkling water at 99p		
Total		

(4)

7. Calculate the value of

$$\sqrt[3]{(25.4 - 5.9)^2}$$

(a) Write down your full calculator display.

.....
(1)

(b) Give your answer to three significant figures.

.....
(1)

8. Work out, as a simplified fraction.

$$\frac{3}{4} + \frac{2}{9}$$

.....
(2)

9. Work out

$$1\frac{1}{3} \times 2\frac{2}{5}$$

Give your answer as a mixed number.

.....
(3)

10. Work out

$$\frac{2}{17} \div \frac{2}{5}$$

Give your answer as a fraction in its simplest form.

.....
(2)

11. Peter's weight decreases from 80kg to 64kg.

Calculate the percentage decrease in Peter's weight.

.....%
(2)

12. Sebastian leaves £3000 in the bank for two years.
It earns compound interest of 2% per year.

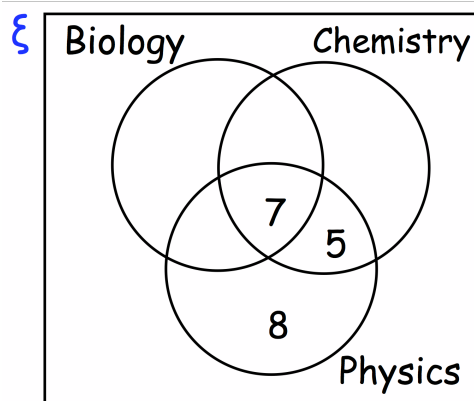
Calculate the total amount Sebastian has in the bank at the end of the two years.

£.....
(2)

13. 60 students were asked what A-levels they studied.
The Venn diagram shows some information.

16 study Biology and Chemistry.
22 students study Physics.
35 students study Chemistry.
4 students do not study any of the three.

Complete the Venn diagram.



(3)

14. A group of 10 girls and 15 boys sit a test.
The mean mark for the boys is 75.
The mean mark for the girls is 82.

Work out the mean mark for the whole group.

.....
(2)

15. The time for ten students to complete a race is below.

Time (t seconds)	Frequency
$20 < t \leq 40$	3
$40 < t \leq 60$	5
$60 < t \leq 80$	2

Work out an estimate for the mean time taken.

.....seconds
(4)

16. The table below shows information about the heights of students.

Height	Frequency
$120 < h \leq 130$	51
$130 < h \leq 140$	120
$140 < h \leq 150$	66
$150 < h \leq 160$	59
$160 < h \leq 170$	4

Which is the modal class interval?

.....
(1)

17. The table below shows information about delivery times, in minutes.

Delivery Time	Frequency
$0 < t \leq 10$	3
$10 < t \leq 20$	10
$20 < t \leq 30$	14
$30 < t \leq 40$	19
$40 < t \leq 50$	4

Find the class interval that contains the median.

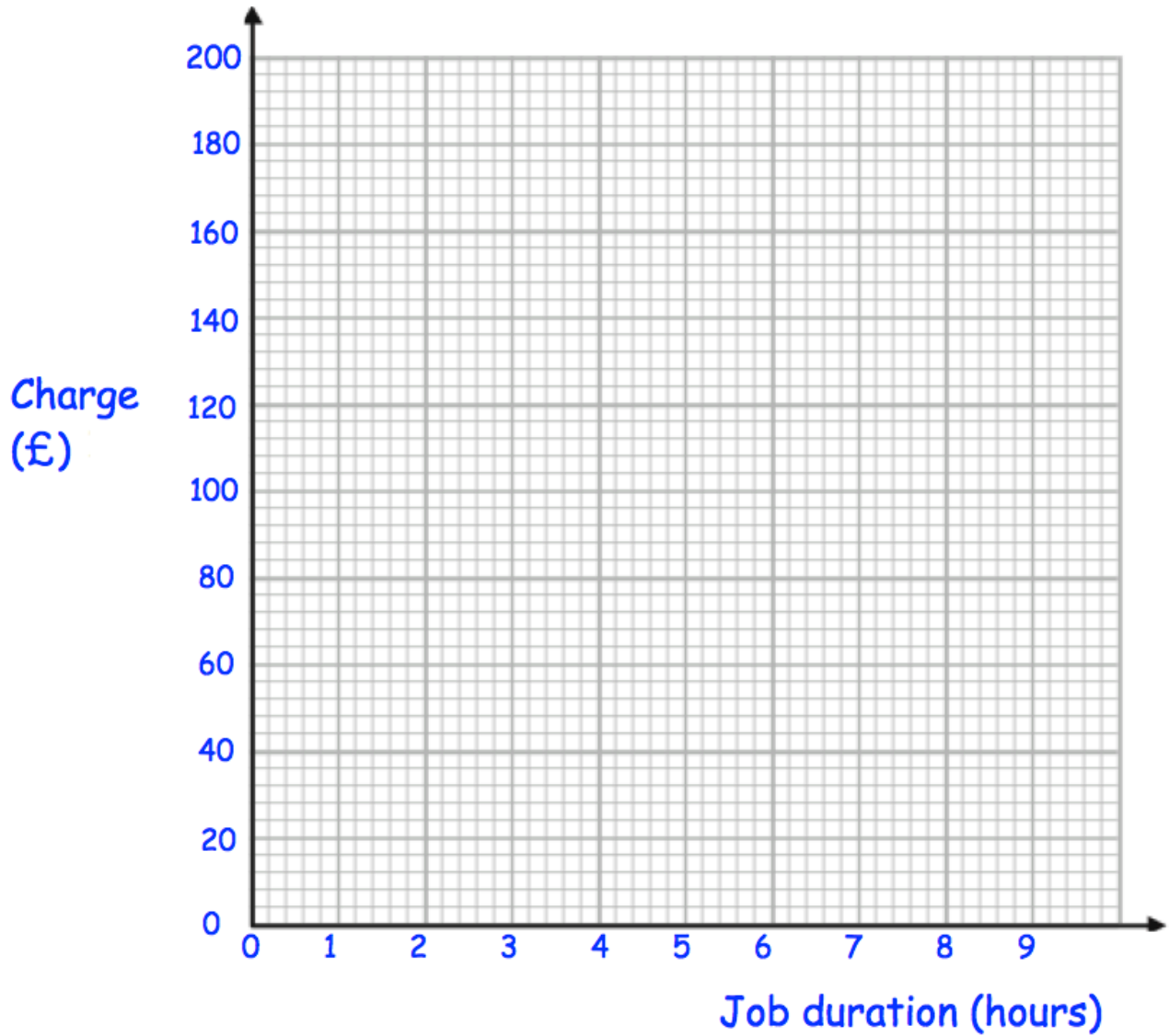
.....
(2)

18. The table shows the charge (£) by plumbers for jobs of different duration (hours).

Job duration (hours)	1	2	3	3	5	6	6
Charge (£)	60	80	104	116	128	140	160

(a) Plot the data on the scatter graph below.

(2)



(b) Describe the correlation.

.....

.....

(1)

(c) Draw a line of best fit on the scatter graph.

(1)

(d) Use your line of best fit to estimate the charge for a 4 hour job.

£.....

(1)

(e) Explain why it may **not** be appropriate to use your line of best fit to estimate the charge for a job lasting 12 hours.

.....

.....

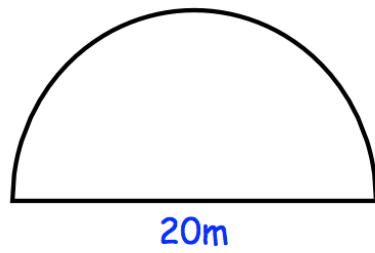
(1)

19. What is the volume of a piece of metal that has a mass of 300g and density of 6g/cm³?

.....cm³

(2)

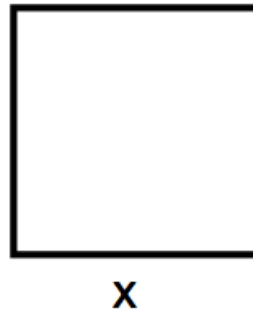
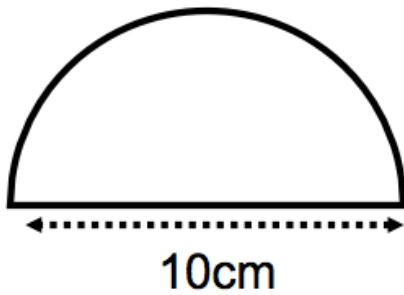
20. A semi-circle has diameter 20cm.



Calculate the perimeter of the semi-circle.

.....m
(2)

21.

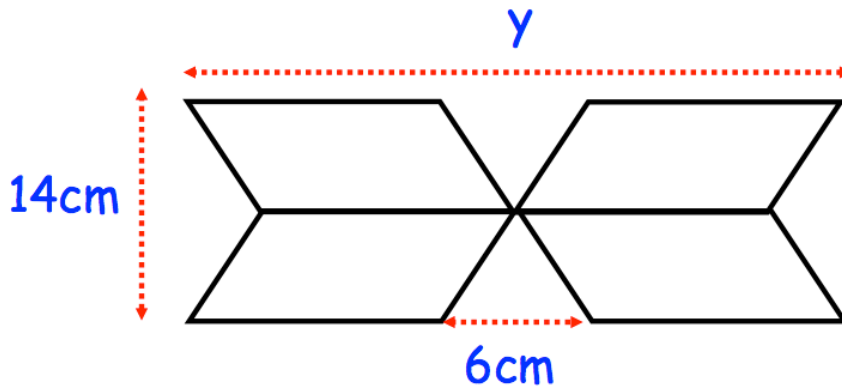


The semi-circle and square have the same area.

Calculate the side length of the square.

.....cm
(4)

22. A shape is made from 4 congruent parallelograms.

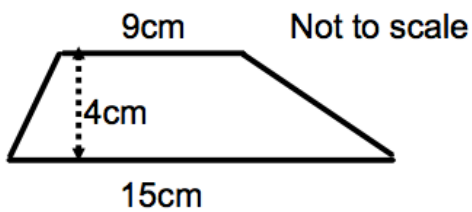


The area of the shape is 308cm^2 .

Work out the length labelled y .

.....cm
(5)

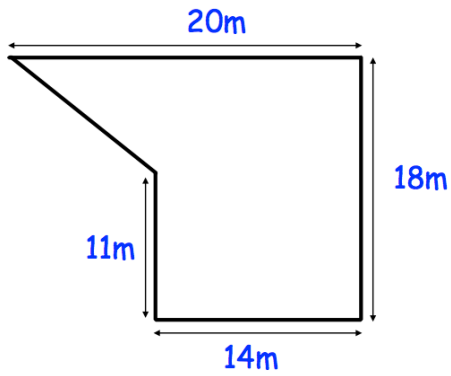
23.



Calculate the area of the trapezium.

.....cm²
(2)

24. Shown is the plan of a small field.

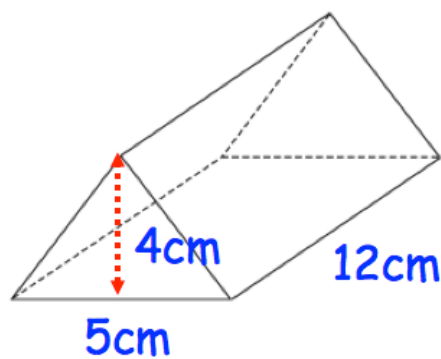


Thomas is going to keep some chickens in the field.
Each chicken needs 5m^2 .

Work out the greatest number of chickens Thomas can keep in the field.

.....
(5)

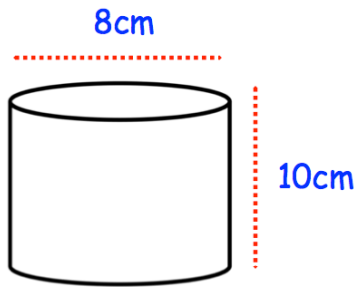
25. Shown below is a triangular prism.



Find the volume of the triangular prism.

..... cm^3
(3)

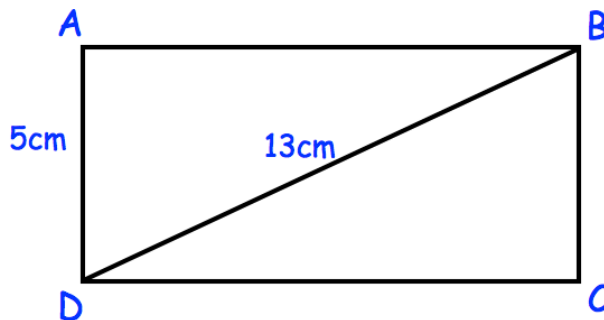
26. Below is a cylinder with diameter 8cm and height of 10cm.



Find the volume of the cylinder.

..... cm³
(3)

27. Below is rectangle, ABCD



AD = 5cm
BD = 13cm

Calculate the perimeter of rectangle ABCD

.....cm
(3)

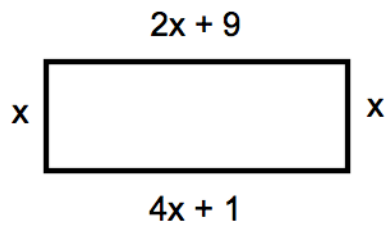
28. Expand $w(3w^2 + 7)$

.....
(2)

29. Factorise $7w^3 + 2w^2$

.....
(2)

30. A rectangle is shown below.



(a) Explain why $4x + 1 = 2x + 9$

.....
.....
(1)

(b) Find the size of x .

$x = \dots\dots\dots$ cm
(2)

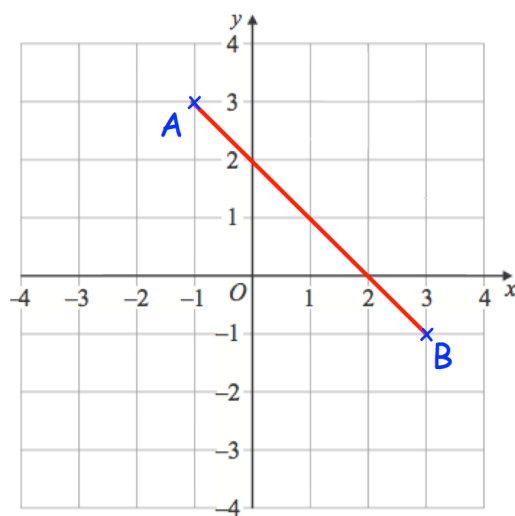
(c) Work out the area of the rectangle.

.....cm²
(2)

31. Solve $4y + 1 = 29 - 2y$

$y = \dots\dots\dots$
(2)

32.

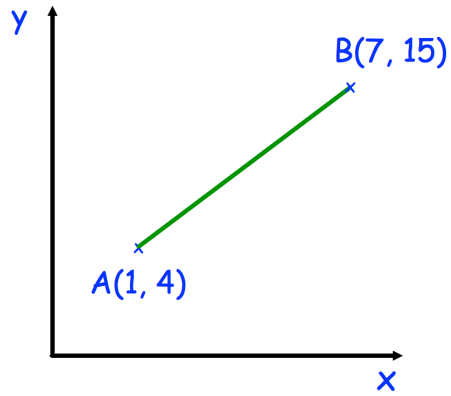


M is the midpoint of AB

Write down the coordinates of M.

$\dots\dots\dots$
(2)

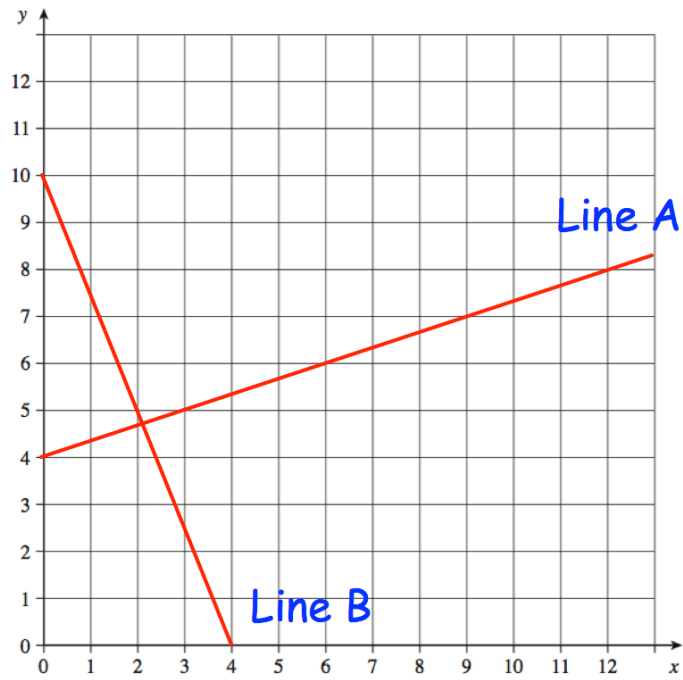
33. Shown below are the points $A(1, 4)$ and $B(7, 15)$



Calculate the length of the line joining A and B.

.....
(3)

34.



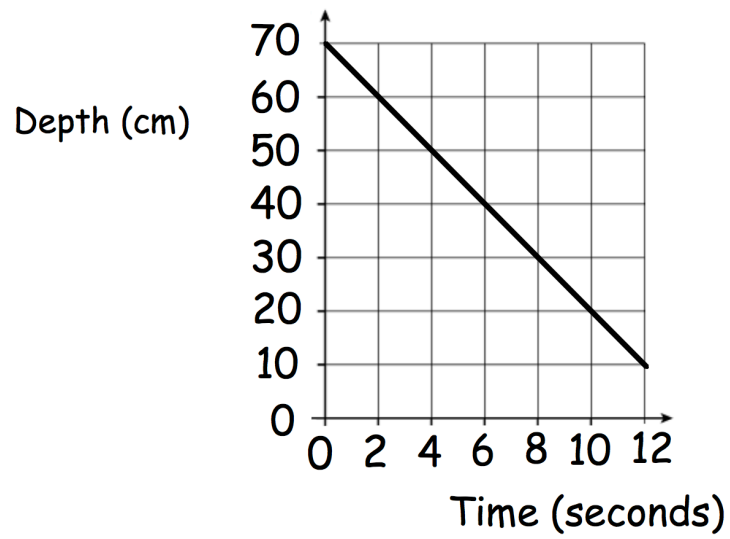
- (a) Line A is drawn on the grid.
Work out the gradient of Line A.

.....
(2)

- (b) Line B is drawn on the grid.
Work out the gradient of Line B.

.....
(2)

35. Beth has a full padding pool.
The graph shows the depth of water in the pool (d cm) over time (t seconds)



- (a) Find the gradient of the graph.

.....
(2)

- (b) Explain what the gradient represents.

.....
.....
(1)