

Revision F3 (All topics) C [43]

1.

- (a) Write 28 as the product of its prime factors.
Give your answer in index form.

(3)

- (b) Find the least common multiple (LCM) of 28 and 42.

(2)

(Total 5 marks)

2.

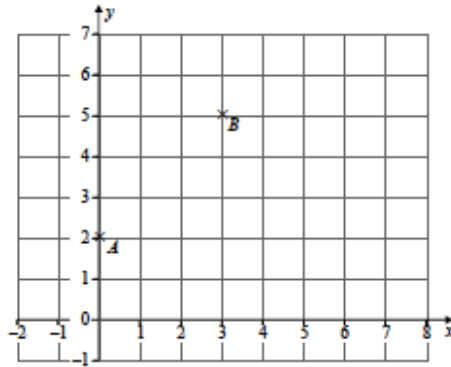
- (a) Expand and simplify $3(y - 2) + 5(2y + 1)$

- (b) Simplify $5u^2w^4 \times 7uw^3$

(Total 4 marks)

3.

(Total 9 marks)



A is the point $(0,2)$ and B is the point $(3,5)$.

- (a) Find the exact length of AB .

(2)

- (b) Find the equation of the line joining the points A and B .

(3)

(Total 5 marks)

4. **Non-calculator**

Solve $5x - 2 > 3x + 11$

[2 marks]

5.

The total number of marks for a test is 40.

- (a) The marks are divided between Section A and Section B in the ratio 4 : 1

- (i) How many marks are there for Section B?

(2)

- (ii) How many more marks are there for Section A than for Section B?

(1)

- (b) Shahid gains 24 marks out of 40 in the test.

Work out his mark as a percentage.

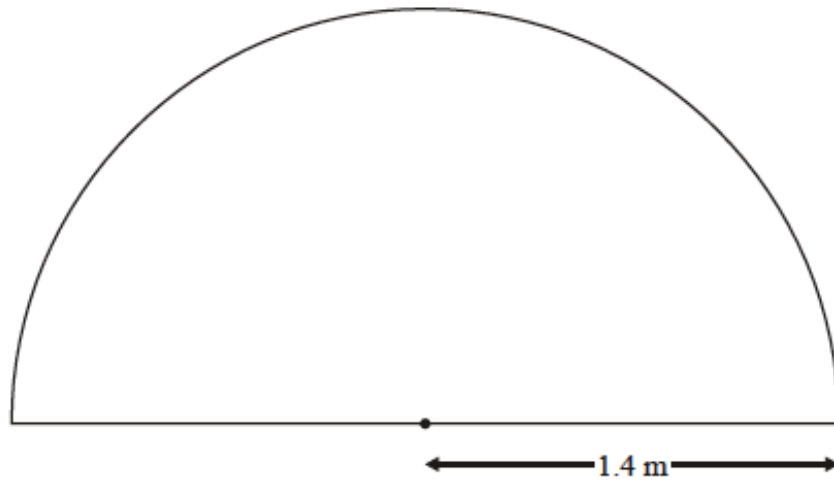
(2)

(Total 5 marks)

6.

Jasmin has a pond in her garden.

The surface of the pond is a semicircle of radius 1.4 m.



Not to scale

- (a) Calculate the area of a semicircle of radius 1.4 m.
You **must** show your working.
State the units of your answer.

(3)

- (b) The pond is 50 cm deep.
The sides of the pond are vertical.

Calculate the volume of the pond.
Give your answer in cubic metres.

(2)

(Total 5 marks)

7.

A concrete slab is a cuboid.

It measures 400 mm by 400 mm by 28 mm.
The density of the concrete is 2250 kg/m^3 .

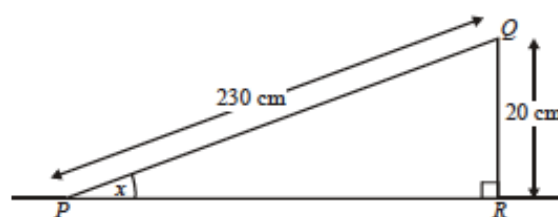
Calculate the total mass of 60 slabs.

(Total 4 marks)

8.

PQ is the surface of a ramp laid on level ground.

The ramp is 230 cm long and 20 cm high, as shown in the diagram.



Not to scale

Work out the size of angle x .

(Total 3 marks)

9.

- (a) Copy and complete the table of values for $y = 2x^2 - 5x$

x	-2	-1	0	1	2	3	4
y	18	7	0	-3	-2		12

(1)

- (b) On a grid $-2 \leq x \leq 4$, $-4 \leq y \leq 18$ (1 cm = 2 units), draw the graph of $y = 2x^2 - 5x$.

(2)

- (c) Write down the value of x for which y has a minimum value.

(1)

(Total 4 marks)

10.

- (a) A road safety officer records the speed of 50 cars outside a school.

Speed, s (mph)	Frequency	Midpoint
$20 \leq s < 25$	12	22.5
$25 \leq s < 30$	27	
$30 \leq s < 35$	8	
$35 \leq s < 40$	3	

Use the class midpoints to calculate an estimate of the mean speed of these 50 cars.

(3)

- (b) The table shows the number of accidents outside the school in the last six years.

Year	2000	2001	2002	2003	2004	2005
Number of accidents	4	5	9	10	9	11

The first 3-point moving average is 6.

Calculate the second and third 3-point moving averages.

(3)

(Total 6 marks)