

Silver Level

Question Paper 4

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Question Paper 4

Time Allowed: 60 minutes

Score: /50

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	<20%

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1 Showing clear algebraic working, solve the simultaneous equations

$$3a + 2b =$$

$$a + 2b = 5$$

$$a = \dots\dots\dots$$

$$b = \dots\dots\dots$$

(Total for Question 1 is 3 marks)

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2 (a) Expand and simplify

(i) $5(2x + 1) - 3(3x - 1)$

(ii) $(y + 5)(y - 7)$

.....

.....

(4)

(b) Make r the subject of the formula $V = \pi r^2 h$ where r is positive.

$r =$

(2)

(Total for Question 2 is 6 marks)

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3 The mass of the Space Shuttle is 7.8×10^4 kilograms.

(a) Write 7.8×10^4 as an ordinary number.



.....
(1)

The Space Shuttle docks with the International Space Station.
The mass of the International Space Station is 4.62×10^5 kilograms.

(b) Calculate the total mass of the Space Shuttle and the International Space Station.
Give your answer in standard form.

..... kg
(2)

(Total for Question 3 is 3 marks)

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- 4 There are 31 students in a class.
The only languages available for the class to study are French and Spanish.
17 students study French.
15 students study Spanish.
6 students study neither French nor Spanish.

Using a Venn diagram, or otherwise, work out how many students study only one language.

.....

(Total for Question 4 is 4 marks)

- 5 Solve the simultaneous equations

$$\begin{aligned}y - 2x &= 6 \\ y + 2x &= 0\end{aligned}$$

Show clear algebraic working.

$$x = \text{.....}$$

$$y = \text{.....}$$

(Total for Question 5 is 3 marks)

6 The table shows the diameters, in kilometres, of five planets.

Planet	Diameter (km)
Venus	1.2×10^4
Jupiter	1.4×10^5
Neptune	5.0×10^4
Mars	6.8×10^3
Saturn	1.2×10^5

(a) Which of these planets has the smallest diameter?

.....
(1)

(b) Calculate the difference, in kilometres, between the diameter of Saturn and the diameter of Neptune.

Give your answer in standard form.

..... km
(2)

The diameter of the Moon is 3.5×10^3 km.

The diameter of the Sun is 1.4×10^6 km.

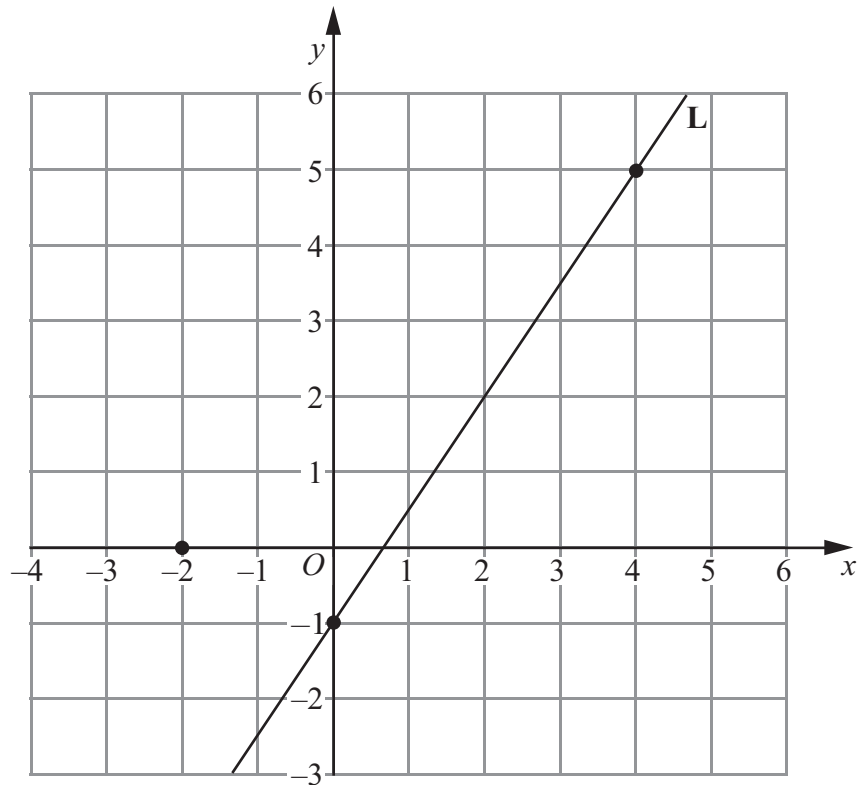
(c) Calculate the ratio of the diameter of the Moon to the diameter of the Sun.

Give your answer in the form $1 : n$

.....
(2)

(Total for Question 6 is 5 marks)

7 The points $(0, -1)$ and $(4, 5)$ lie on the straight line **L**.



(a) Work out the gradient of **L**.

.....
(2)

(b) Write down an equation of **L**.

.....
(1)

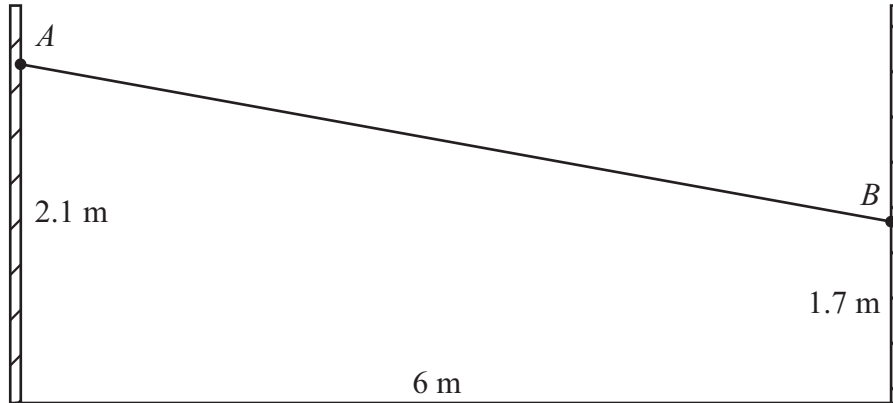
(c) Find an equation of the line which is parallel to **L** and passes through the point $(-2, 0)$

.....
(2)

(Total for Question 7 is 5 marks)

- 8 A washing line is attached at points A and B on two vertical posts standing on horizontal ground.
Point A is 2.1 metres above the ground on one post.
Point B is 1.7 metres above the ground on the other post.
The horizontal distance between the two posts is 6 metres.

Diagram **NOT** accurately drawn



Calculate the distance AB .
Give your answer correct to 3 significant figures.

..... m

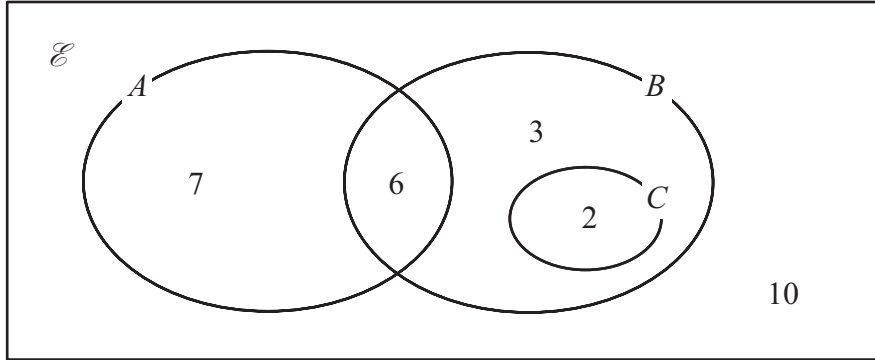
(Total for Question 8 is 4 marks)

- 9 Make h the subject of the formula $A = 2\pi r(r + h)$

$h =$

(Total for Question 9 is 2 marks)

10 The Venn diagram shows a universal set \mathcal{E} and three sets A , B and C .



7, 6, 3, 2 and 10 represent the **numbers** of elements.

Find

(i) $n(A \cup B)$

.....

(ii) $n(A')$

.....

(iii) $n(B \cap C')$

.....

(iv) $n(A' \cup B')$

.....

(Total for Question 10 is 4 marks)

11

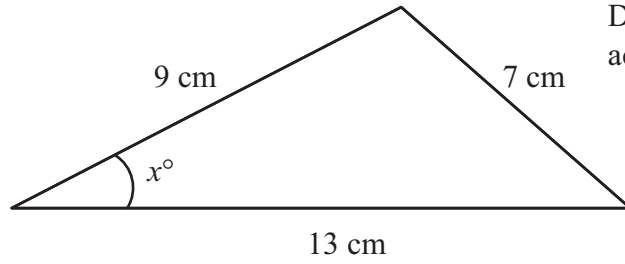


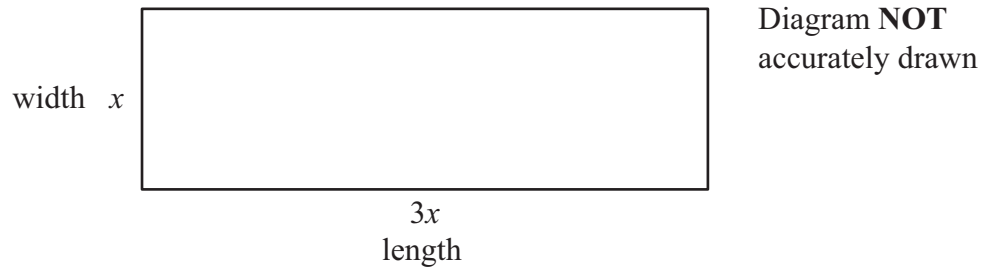
Diagram **NOT**
accurately drawn

Calculate the value of x .
Give your answer correct to 1 decimal place.

$x = \dots\dots\dots$

(Total for Question 11 is 3 marks)

12 The diagram shows a rectangular playground of width x metres and length $3x$ metres.



The playground is extended, by adding 10 metres to its width and 20 metres to its length, to form a larger rectangular playground.

The area of the larger rectangular playground is double the area of the original playground.

(a) Show that $3x^2 - 50x - 200 = 0$

(3)

(b) Calculate the area of the original playground.

..... m²
(5)