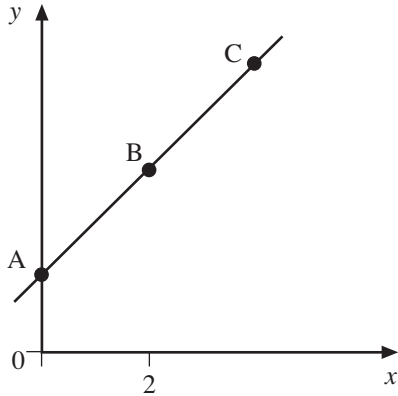


UNIT 27 *Coordinates*

CSEC Revision Test

1.



The three points, A, B and C lie on the line $y = 2x + 3$.

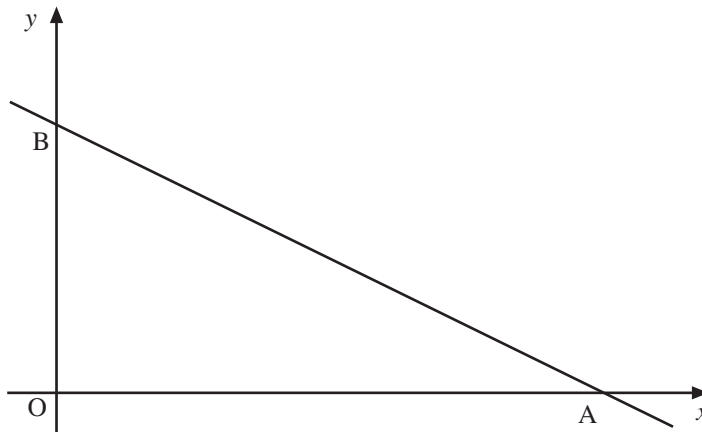
A is the point at which the line cuts the y axis.

The x -coordinate of B is 2.

C is the point such that $AB = BC$.

- (a) Calculate the y -coordinate of A *(1 mark)*
- (b) Calculate the y -coordinate of B. *(1 mark)*
- (c) Calculate the coordinates of C. *(2 marks)*

2.



The graph shows part of the straight line whose equation is $3x + 4y = 12$. The line meets the x -axis at A and the y -axis at B.

Calculate

- (a) the distance OB, *(1 mark)*
- (b) the coordinates of the point A, *(2 marks)*

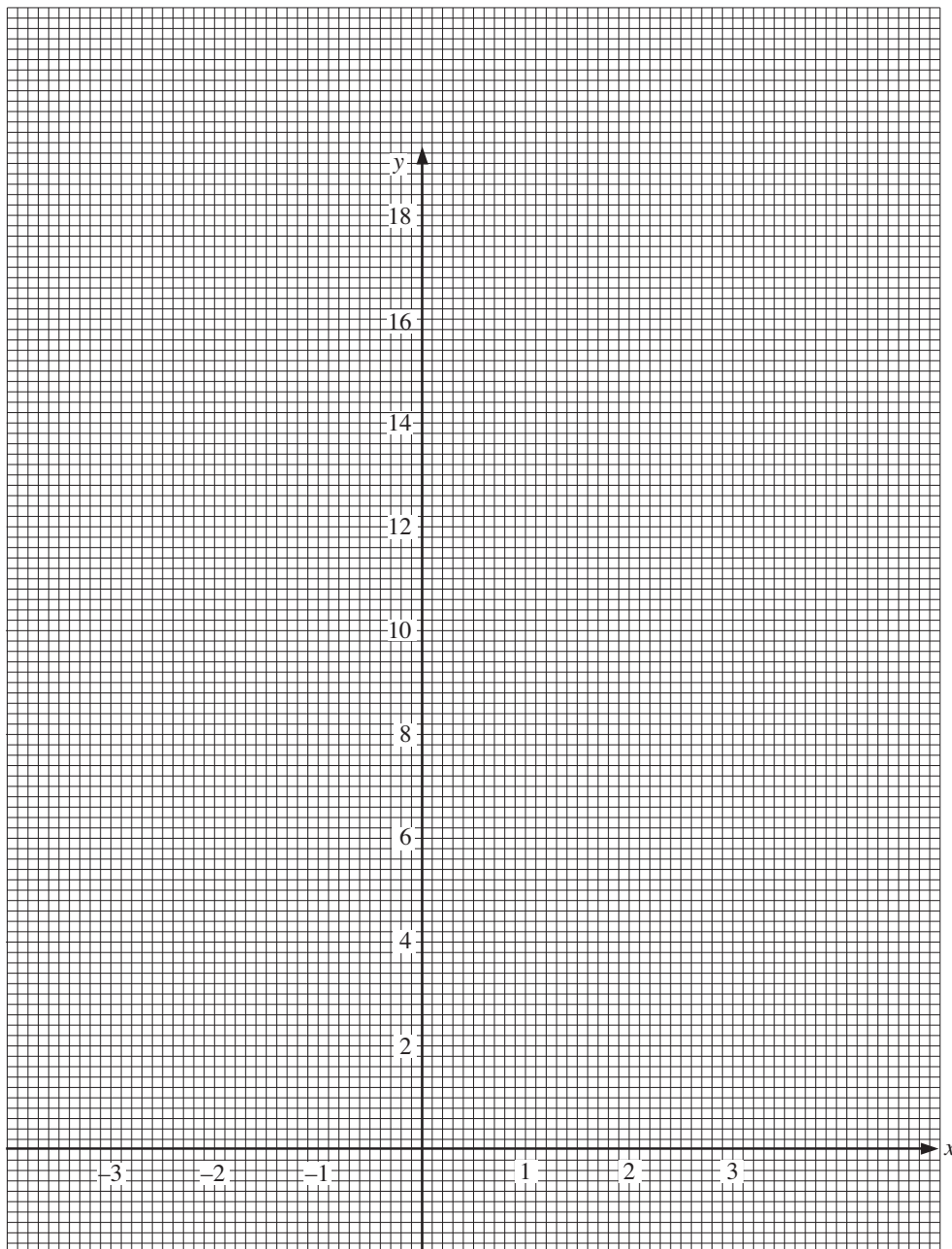
UNIT 27 *Coordinates***CSEC Revision Test**

3. Below is a partly completed table for the function

$$y = 2x^2$$

x	- 3	- 2	- 1	0	1	2	3
y		8		0		8	

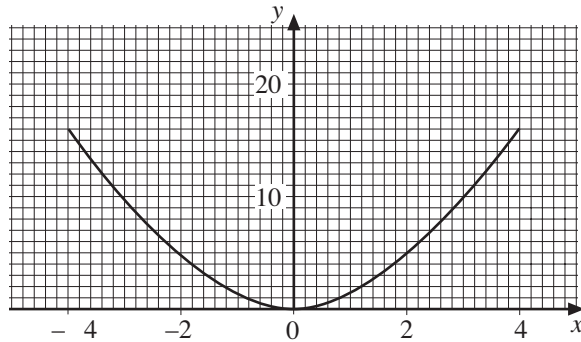
- (a) Complete the table by filling in the missing values of y . (4 marks)
- (b) Using a copy of the axes provided, plot these points and join them to form a smooth curve, (3 marks)
- (c) Using the same axes, draw the line $y = 10$. (1 mark)
- (d) Write down the values of x where the line crosses the curve. (2 marks)



UNIT 27 *Coordinates*

CSEC Revision Test

4.



The diagram represents the graph of $y = x^2$ for values of $x = -4$ to $x = 4$.

- (a) What length represents 1 unit in the y axis? (1 mark)
- (b) Why can y never be negative? (2 marks)
- (c) A square piece of card has an area of 6 cm^2 .

Use the graph to find, correct to 1 decimal place, the length of a side of the card. (1 mark)

5. (a) Given that $y = \frac{1}{2}x^3$, copy and complete the table below. (2 marks)

x	-2	-1	0	1	2	3
y		-0.5	0		4	13.5

- (b) **Using scales of 2 cm to represent 1 unit on the x-axis and 1 cm to represent 1 unit on the y-axis**, draw the graph of the function y for $-2 \leq x \leq 3$ (7 marks)
(CXC)

6. (a) Given that $f(x) = x^2 + x - 2$, copy and complete the table below.

x	-3	-2	-1	0	1	2
f(x)	4		-2		0	

- (b) Using 2 cm to represent 1 unit on both axes, draw the graph of $f(x) = x^2 + x - 2$ for $-3 \leq x \leq 2$. (4 marks)

- (c) On the graph of $f(x) = x^2 + x - 2$, draw the graph of $g(x) = x - 1$ using the values from the table shown below.

x	-2	3
g(x)	-3	2

- (d) Using the graphs, write down the coordinates for the points where the two graphs intersect. (2 marks)

(CXC)

(40 MARKS)

UNIT 27 *Coordinates*

CSEC Revision Test

ANSWERS

1. (a) 3 (b) 7 (c) (4, 11) B1 B1 B1 B1 (4 marks)

2. (a) 3 (b) (4, 0) B1 B2 (3 marks)

3. (a)

x	- 3	- 2	- 1	0	1	2	3
y	18	8	2	0	2	8	18

B4 (3, 2, 1)

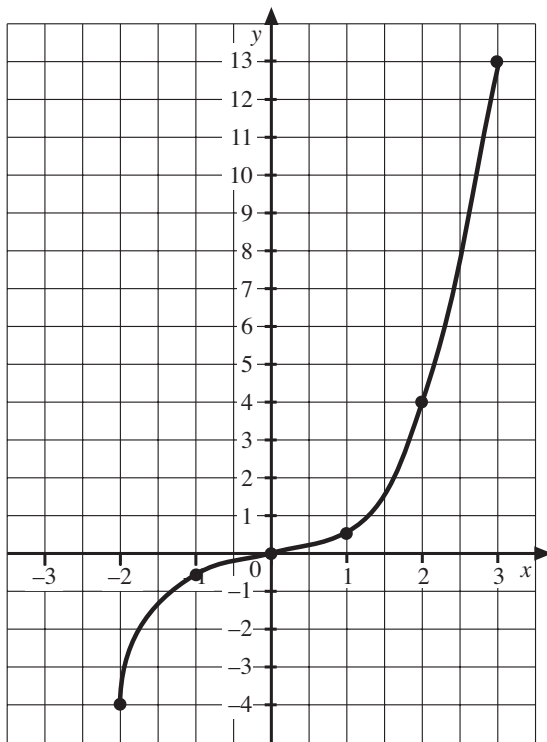
(b) graph (c) line $y = 10$ (d) ± 2.2 B3 B1 B1 B1 (10 marks)

4. (a) about 0.14 cm (b) x^2 is always positive (c) 2.4 cm B1 B2 B1 (4 marks)

5. (a) $x = -2 \Rightarrow y = -4$ B1

$x = 1 \Rightarrow y = 0.5$ B1

(b)



axes B1 B1

(-1 for each mistake) points B4

shape B1 (9 marks)

UNIT 27 *Coordinates*

CSEC Revision Test
ANSWERS

6. (a) $f(-2) = 0$

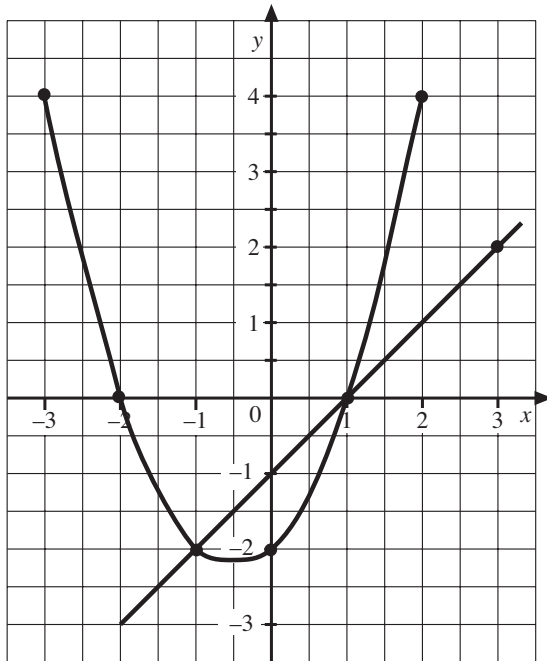
$f(0) = -2$

$f(2) = 4$

(-1 for each mistake)

B2

(b)



axes B1

(-1 for each mistake) points B2

shape B1

(c) graph

graph B2

(d) (1, 0) and (-1, -2)

B1 B1

(10 marks)

TOTAL MARKS: 40