Silver Level

Question Paper 19

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Silver
Booklet	Question Paper 19

Time Allowed: **58 minutes**

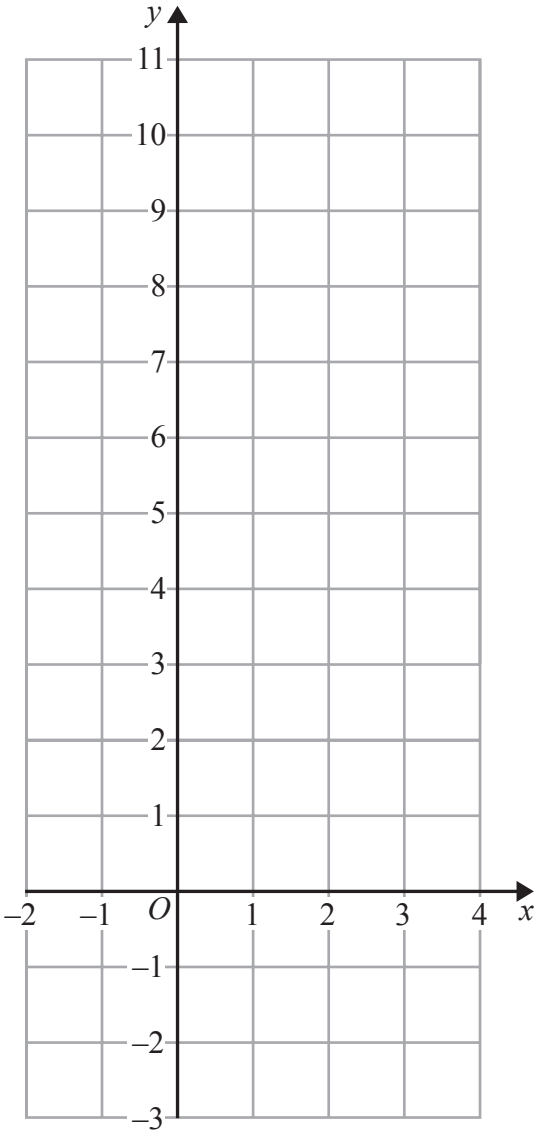
Score: **/48**

Percentage: **/100**

Grade Boundaries:

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

1 (a) On the grid, draw the graph of $y = 2x + 3$ for values of x from –2 to 4



(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities

$$x \leqslant 3 \quad \text{and} \quad y \geqslant 2 \quad \text{and} \quad y \leqslant 2x + 3$$

Label your region **R**.

(2)

(Total for Question 1 is 5 marks)

2

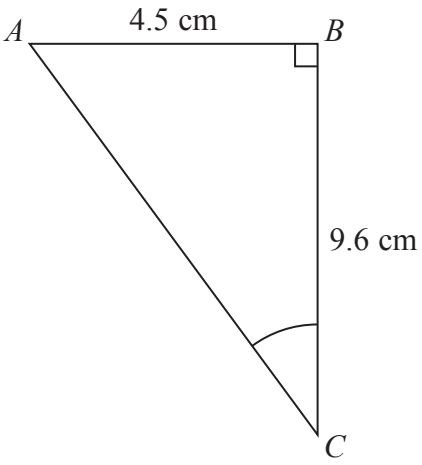


Diagram **NOT** accurately drawn

Work out the size of angle ACB.
Give your answer correct to 1 decimal place.

.....°

(Total for Question 2 is 3 marks)

3 Make t the subject of $5(t - g) = 2t + 7$

.....

(Total for Question 3 is 3 marks)

4 Liam invests £8000 in a savings account for 4 years.
The savings account pays compound interest at a rate of

4.5 % for the first year
2.75 % for all subsequent years.

(a) Work out the value of Liam's investment at the end of 4 years.

£.....

(3)

Max invests some money in a savings bond.
The savings bond pays interest at a rate of 2% per year.

At the end of the first year, his savings bond is worth £5763

(b) How much money did Max invest in the savings bond?

£.....

(3)

(Total for Question 4 is 6 marks)

5 Solve the inequality $5x^2 - 13 < 32$
Show clear algebraic working.

.....

(Total for Question 5 is 3 marks)

6 A is the point with coordinates (1, 3)
B is the point with coordinates (–2, –1)

The line **L** has equation $3y = 4 - 2x$

Is line **L** parallel to AB?
Show your working clearly.

(Total for Question 6 is 3 marks)

7 The diagram shows a circle with centre O and radius 6.5 cm

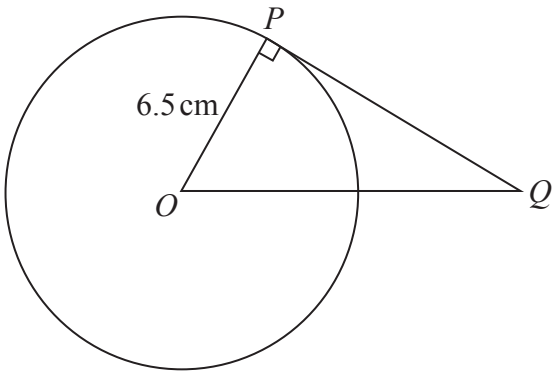


Diagram **NOT** accurately drawn

(a) Work out the area of the circle.
Give your answer correct to 3 significant figures.

..... cm^2
(2)

PQ is the tangent to the circle at P
OQ = 10.5 cm

(b) Work out the length of PQ
Give your answer correct to 3 significant figures.

..... cm
(3)

(Total for Question 7 is 5 marks)

8 (a) Express 600 as a product of powers of its prime factors.
Show your working clearly.

.....

(3)

(b) Simplify $\dfrac{5^{12}}{5^2 \times 5}$

Give your answer as a power of 5

.....

(2)

(Total for Question 8 is 5 marks)

9 (a) Solve the inequality $e - 2 < 0$

.....

(1)

(b) Solve the inequality $5 - 3e < 4$

.....

(2)

(c) Write down the integer value of e that satisfies both of the inequalities

$e - 2 < 0$ and $5 - 3e < 4$

.....

(1)

(Total for Question 9 is 4 marks)

10 The diagram shows a circle with centre O.
The points A, B and C lie on the circle.

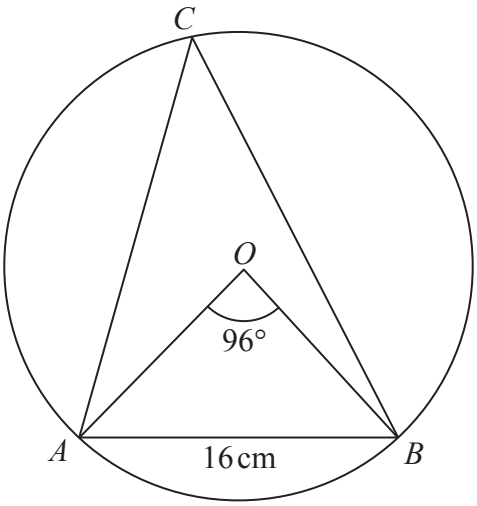


Diagram **NOT** accurately drawn

Angle $AOB = 96°$

(a) Work out the size of angle ACB.

..... °

(1)

$AB = 16\,\text{cm}$

(b) Work out the radius of the circle.
Give your answer correct to 3 significant figures.

..... cm

(4)

(Total for Question 10 is 5 marks)

11 Solve the simultaneous equations

$$c + 5d = -13$$
$$4c - 5d = 48$$

Show clear algebraic working.

$c =$ .....

$d =$ .....

(Total for Question 11 is 3 marks)

12 A stone is thrown vertically upwards from a point O.

The height above O of the stone t seconds after it was thrown from O is h metres, where $h = 17t - 5t^2$

Work out the values of t when the height of the stone above O is 12 metres.
Show your working clearly.

.....

(Total for Question 12 is 3 marks)