Gold Level

Question Paper 8

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Gold
Booklet	Question Paper 8

Time Allowed: **60 minutes**

Score: **/50**

Percentage: **/100**

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	65%	55%	45%	35%	25%	15%	<15%

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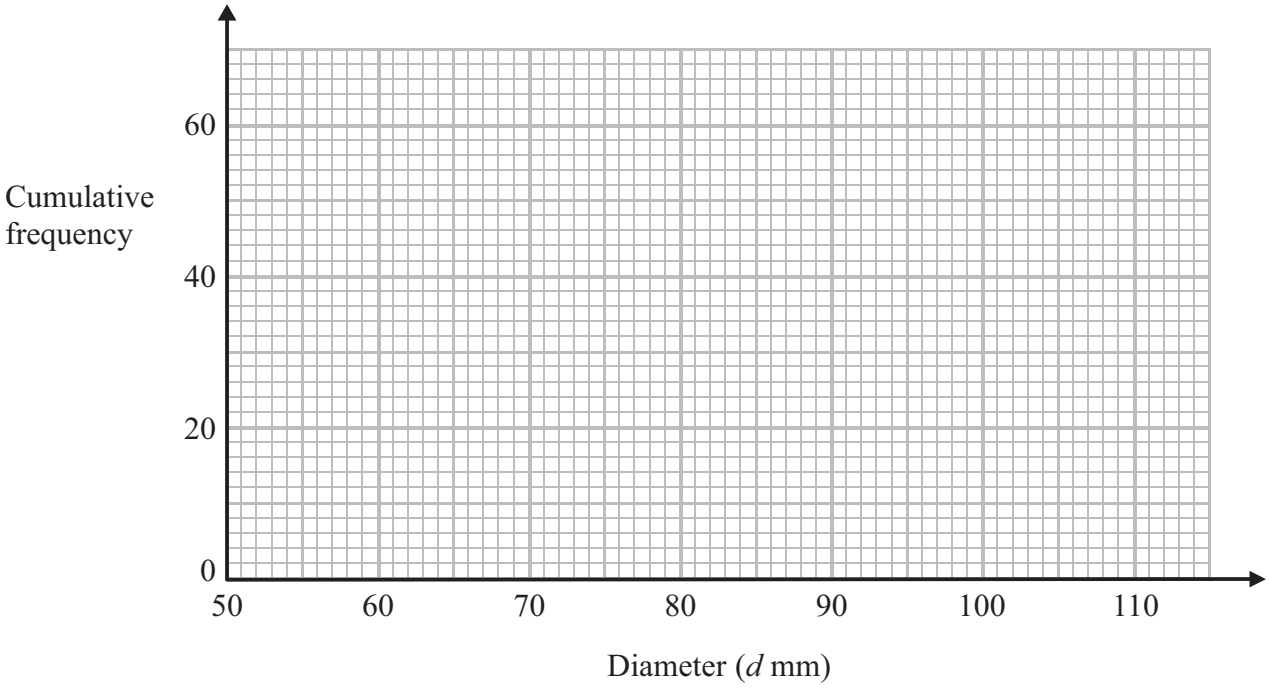
1 The cumulative frequency table shows information about the diameters of 60 oranges.

Diameter (d mm)	**Cumulative frequency**
$50 < d \leqslant 60$	12
$50 < d \leqslant 70$	42
$50 < d \leqslant 80$	54
$50 < d \leqslant 90$	57
$50 < d \leqslant 100$	59
$50 < d \leqslant 110$	60

(a) On the grid, draw a cumulative frequency graph for the table.

(2)



(b) Use your graph to find an estimate for the median diameter of the 60 oranges.

..... mm

(2)

(Total for Question 1 is 4 marks)

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2

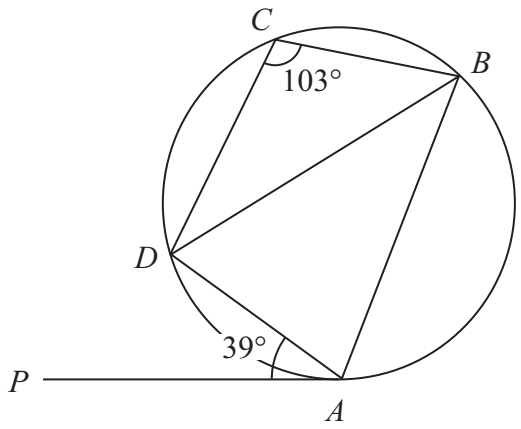

Diagram **NOT** accurately drawn

A, *B*, *C* and *D* are points on a circle.
PA is a tangent to the circle.
Angle *PAD* = 39°
Angle *BCD* = 103°

Calculate the size of angle *ADB*.

.....°

(Total for Question 2 is 3 marks)

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3

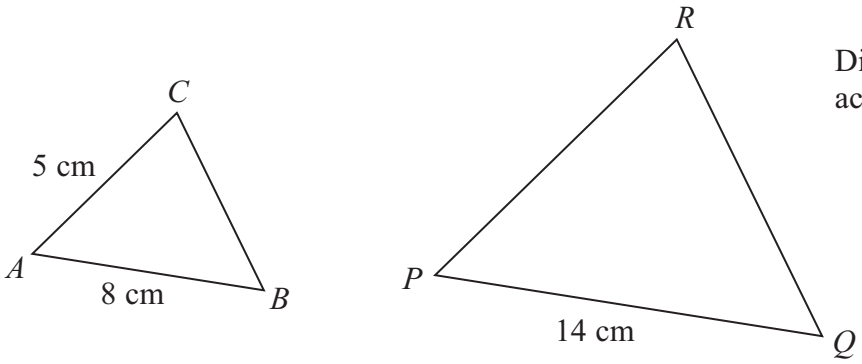

Diagram **NOT** accurately drawn

Triangle ABC is similar to triangle PQR.
AB corresponds to PQ.
AC corresponds to PR.
$AB = 8$ cm.
$AC = 5$ cm.
$PQ = 14$ cm.

(a) Calculate the length of PR.

..... cm

(2)

The area of triangle ABC is 16 cm^2

(b) Calculate the area of triangle PQR.

..... cm^2

(3)

(Total for Question 3 is 5 marks)

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4 Parveen travels to school either by bicycle or by bus.
The probability that, on any day, she will travel by bicycle is 0.7
When she travels by bicycle, the probability that she will be late for school is 0.2
When she travels by bus, the probability that she will be late for school is 0.1

(a) Calculate the probability that, on a randomly chosen day, Parveen will travel by bus and be late for school.

.....

(2)

(b) Calculate the probability that, on a randomly chosen day, Parveen will not be late for school.

.....

(3)

(Total for Question 4 is 5 marks)

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5

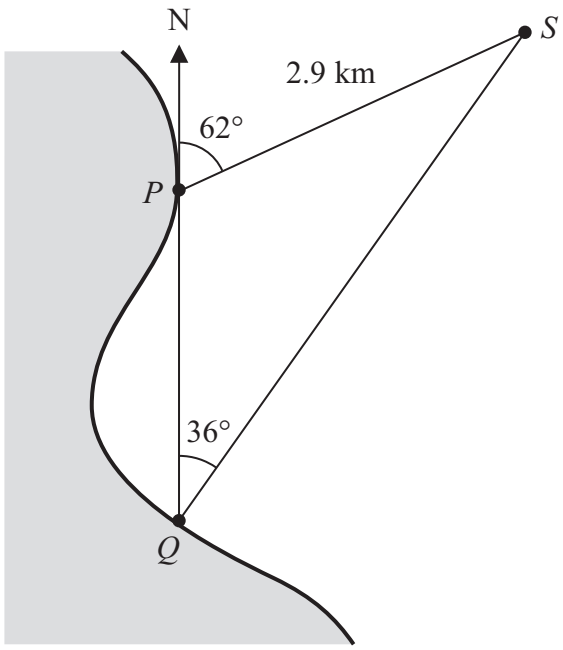

Diagram **NOT** accurately drawn

P and *Q* are two points on a coast.
P is due North of *Q*.
A ship is at the point *S*.
PS = 2.9 km.
The bearing of the ship from *P* is 062°
The bearing of the ship from *Q* is 036°

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

..... km

(Total for Question 5 is 3 marks)

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6 (a) Correct to the nearest millimetre, the length of a side of a regular hexagon is 3.6 cm.

Calculate the upper bound for the perimeter of the regular hexagon.

..... cm

(2)

(b) Correct to 1 significant figure, the area of a rectangle is 80 cm^2
Correct to 2 significant figures, the length of the rectangle is 12 cm.

Calculate the lower bound for the width of the rectangle.
Show your working clearly.

..... cm

(3)

(Total for Question 6 is 5 marks)

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7

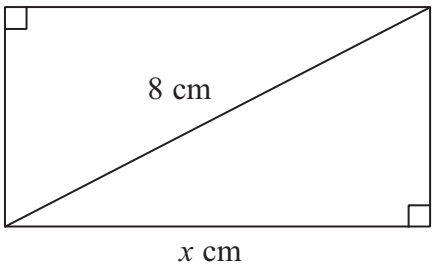

Diagram **NOT** accurately drawn

The diagram shows a rectangle.
The length of the rectangle is x cm.
The length of a diagonal of the rectangle is 8 cm.
The perimeter of the rectangle is 20 cm.

(a) Show that $x^2 - 10x + 18 = 0$

(4)

(b) Solve $x^2 - 10x + 18 = 0$
Give your solutions correct to 3 significant figures.
Show your working clearly.

.....

(3)

(Total for Question 7 is 7 marks)

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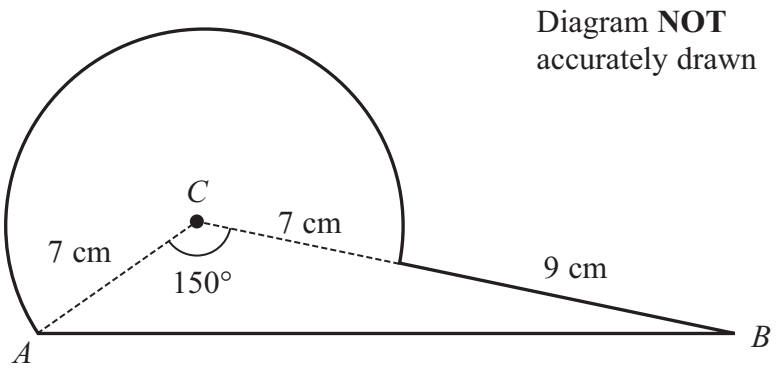
8 Here is a shape.



The shape is made from triangle ABC and a sector of a circle, centre C and radius CA.
$CA = 7$ cm.
$CB = 16$ cm.
Angle $ACB = 150°$

Calculate the area of the shape.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 8 is 6 marks)

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9 Make y the subject of $\frac{y}{x} + \frac{2y}{x+4} = 3$

Show your working clearly and give your answer as simply as possible.

$y =$.....

(Total for Question 9 is 5 marks)

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10 (a) $A = \{s, u, p, e, r\}$
$B = \{c, o, m, p, u, t, e, r\}$

List the members of the set

(i) $A \cap B$

.....

(ii) $A \cup B$

.....

(2)

(b) $X = \{\text{prime numbers}\}$
$Y = \{\text{factors of } 12\}$

Is it true that $X \cap Y = \varnothing$?

Tick (✓) the appropriate box.

Yes	No
☐	☐

Explain your answer.

.....

(1)

(Total for Question 10 is 3 marks)

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11 Triangles *ABC* and *ACD* are similar.

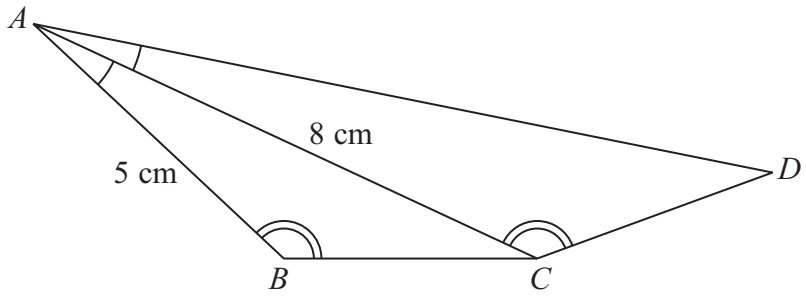

Diagram **NOT** accurately drawn

Angle *BAC* = angle *CAD*.
Angle *ABC* = angle *ACD*.
AB = 5 cm and *AC* = 8 cm.

(a) Calculate the length of *AD*.

..... cm

(2)

The area of triangle *ABC* is 12 cm^2

(b) Calculate the area of triangle *ACD*.

..... cm^2

(2)

(Total for Question 11 is 4 marks)