Edexcel GCSE
Mathematics (Linear) – 1MA0

ANGLES SOLUTIONS

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1.

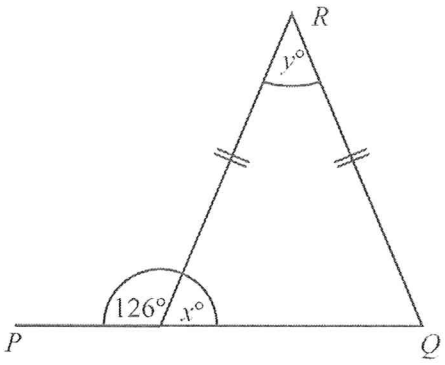


Diagram **NOT** accurately drawn

PQ is a straight line.

(a) Work out the size of the angle marked $x°$.

180 - 126 = 54

54 °

(1)

(b) (i) Work out the size of the angle marked $y°$.

180 - (2 × 54) = 72

72 °

(ii) Give reasons for your answer.

- Angles in a triangle add up to 180.
- Base angles are equal in an isosceles triangle

(3)

(4 marks)

2.

120
+140
58
318

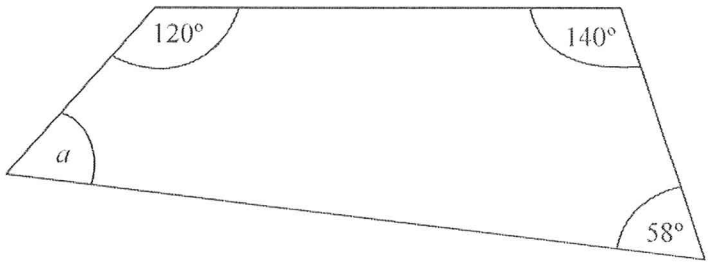


Diagram **NOT** accurately drawn

Work out the size of the angle a.

360 - 318 = 42

42 °

(2 marks)

3.

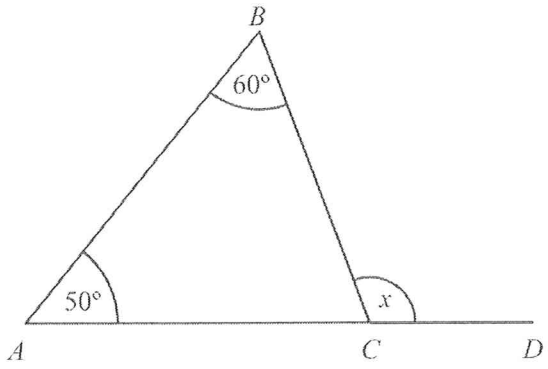


Diagram **NOT** accurately drawn

In the diagram, ABC is a triangle.
ACD is a straight line.
Angle $CAB = 50°$.
Angle $ABC = 60°$.

Work out the size of the angle marked x.

50+60=110
180-110=70 (Triangle)
180-70=110 (Straight line)

.....110..... °

(2 marks)

4.

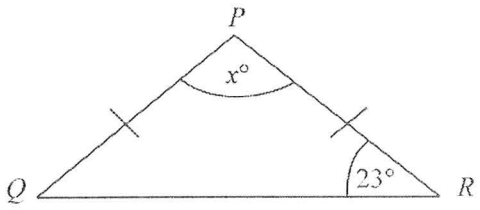


Diagram **NOT** accurately drawn

PQR is an isosceles triangle.

$PQ = PR$.
Angle $R = 23°$.

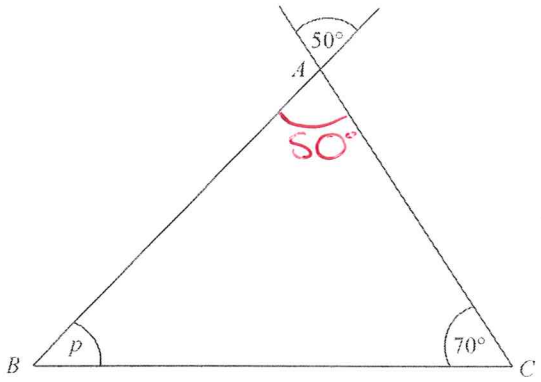
Work out the value of x.

180-(2×23)=134

$x =$ .....134.....

(2 marks)

5.



50
+70
120

Diagram **NOT** accurately drawn

ABC is a triangle.

Work out the size of the angle marked *p*.

180 - 120 = 60

p = 60 °

(2 marks)

6.

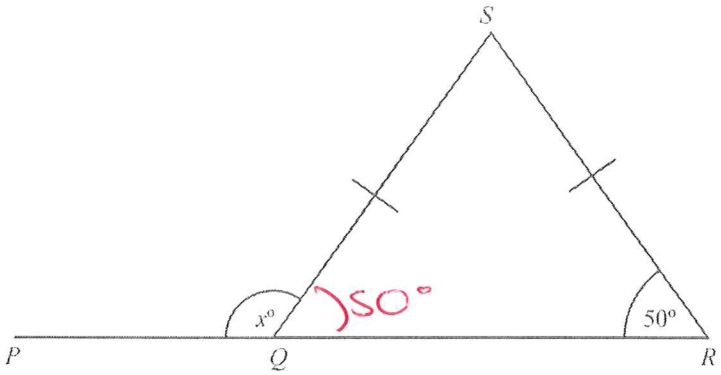


Diagram **NOT** accurately drawn

PQR is a straight line.
SQ = *SR*.

(i) Work out the size of the angle marked $x°$

180 - 50 = 130 130 °

(ii) Give reasons for your answer.

Base angles equal in an isosceles triangle.
Angles on a line add up to 180.

(3 marks)

7.

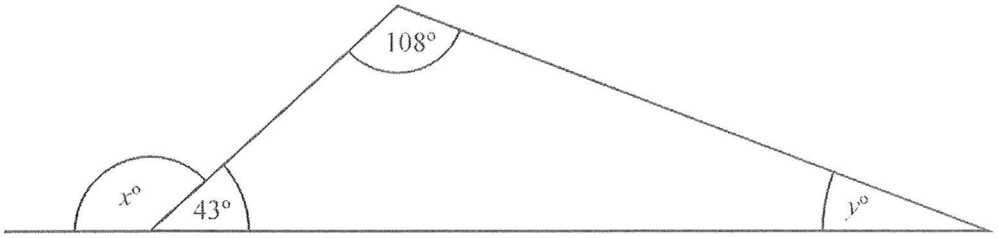


Diagram **NOT** accurately drawn

(a) Work out the value of x.

180 - 43 = 137

$x =$ 137

(1)

(b) Work out the value of y.

108
+ 43
151

180 - 151 = 29

$y =$ 29

(2)

(3 marks)

8.

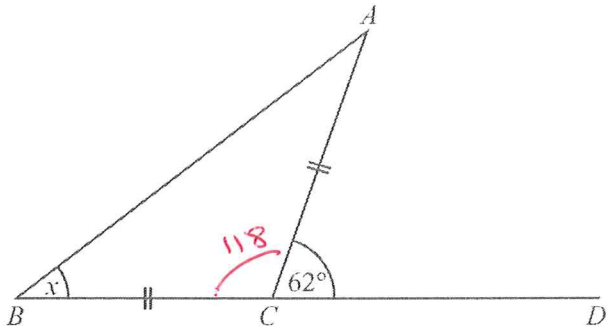


Diagram **NOT** accurately drawn

Triangle ABC is isosceles, with $AC = BC$.

Angle $ACD = 62^0$.

BCD is a straight line.

Work out the size of angle x.

180 - 62 = 118
180 - 118 = 62
62 ÷ 2 = 31

$x =$ 31 ^{0}

(2 marks)

9.

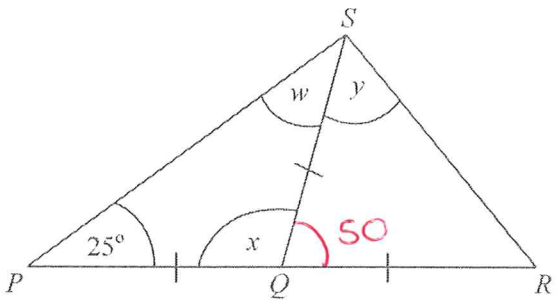


Diagram **NOT** accurately drawn

PQR is a straight line.

PQ = *QS* = *QR*.

Angle *SPQ* = 25°.

(a) (i) Write down the size of angle *w*.

25 .....°

(ii) Work out the size of angle *x*.

180 - 50 = 130 130 .....°

(2)

(b) Work out the size of angle *y*.

180 - 130 = 50

180 - 50 = 130 130 ÷ 2 = 65 65 .....°

(2)

(4 marks)

10.

119
105
78
302

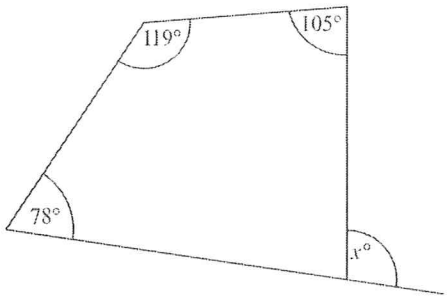


Diagram **NOT** accurately drawn

Work out the value of *x*.

360 - 302 = 58 *x* = 58

(3 marks)

11.

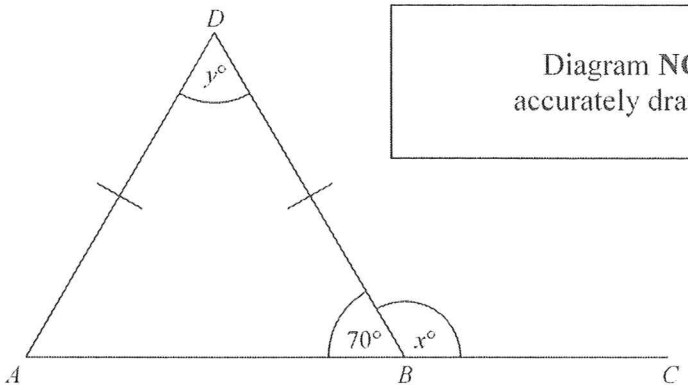


Diagram **NOT** accurately drawn

ABD is a triangle. *ABC* is a straight line.
Angle *ABD* = 70°.
AD = *BD*.

(a) (i) Work out the value of *x*.

180 - 70 = 110

x = 110

(ii) Give a reason for your answer.

Angles on a straight line add to 180

(2)

(b) (i) Work out the value of *y*.

180 - (2 × 70) = 40

y = 40

(ii) Give a reason for your answer.

Base angles are equal in an isosceles triangle. Angles in a triangle add up to 180.

(3)

(5 marks)

12.

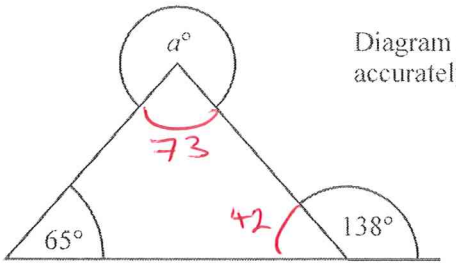


Diagram **NOT** accurately drawn

180 - 138 = 42

180 - 42 - 65

= 73

360 - 73 = 287

Work out the value of *a*.

a = 287

(3 marks)

13.

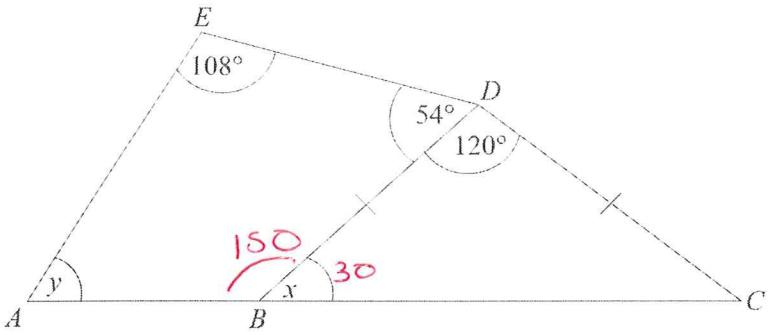


Diagram **NOT** accurately drawn

In the diagram, ABC is a straight line and $BD = CD$.

(a) Work out the size of angle x.

180 - 120 = 60
60 ÷ 2 = 30

30 .....°

(2)

(b) Work out the size of angle y.

180 - 30 = 150

150
+ 54
108
312

360 - 312 = 48

48 .....°

(3)

(5 marks)