Mark schemes

Q1.

B

B1

[1]

Q2.

Alternative method 1

Angle *DAB* = 70

may be on diagram

B1

Angle *ABC* = 360 − their 70 − 90 − 120
or Angle *ABC* = 80

may be on diagram

M1

Valid reason

eg
180 − 80 = 100
80 + 100 = 180
angles on a straight line add to 180
(360 − 80 − 80)/2 = 100

A1

Alternative method 2 working backwards from x = 100

Angle *ABC* = 180 − 100
or Angle *ABC* = 80

may be on diagram

M1

Angle *DAB* = 360 − their 80 − 90 − 120
or Angle *DAB* = 70

may be on diagram

M1dep

Valid reason

eg
opposite angles are equal
vertically opposite angles (are equal)
180 − 70 = 110 and 180 − 110 = 70

A1

Additional Guidance

Incorrect angles seen anywhere around A or B cannot score the A1

[3]

Q3.

a + 65 + 115 + c = 360

oe

or b + c = 180

oe

M1

a + c = 180

and b + c = 180

and a = b

oe e.g. c = 180 – a

b = 180 – (180 – a)

= a

A1

angles at a point

and (co)interior angles

A1

Additional Guidance

Accept angles round a point for angles at a point

Accept allied angles for interior angles

[3]

Q4.

(a) 64

B1

(b) 116

B1

(c) Corresponding

Any unambiguous indication eg circles correct word

B1

[3]

Q5.

4

B1

[1]

Q6.

Sketch of possible pentagon with exactly one line of symmetry, integer sides labelled, perimeter ie 15 cm

1 × 7 cm and 4 × 2 cm

1 × 7 cm and 2 × 3 cm and 2 × 1 cm

1 × 5 cm and 2 × 4 cm and 2 × 1 cm

1 × 5 cm and 2 × 3 cm and 2 × 2 cm

1 × 3 cm and 2 × 5 cm and 2 × 1 cm
1 × 3 cm and 2 × 4 cm and 2 × 2 cm
3 × 1 cm and 2 × 6 cm
1 × 1 cm and 2 × 5 cm and 2 × 2 cm
1 × 1 cm and 2 × 4 cm and 2 × 3 cm
5 × 3 cm (but sketch clearly only has 1 line of symmetry)

B1
regular pentagon with 5 × 3 cm labelled
or
(impossible) pentagon with sides labelled
eg 1 × 11 cm and 4 × 1 cm
or
pentagon with one line of symmetry and non-integer sides labelled, perimeter 15
Units not needed

B2

[2]

Q7.

C

B1

[1]

Q8.

(a) 70 + 120 + 40 or 230

M1

360 − (70 + 120 + 40)
or 360 − their 230 *oe*

M1dep

130

A1

(b) *BAC* = 25 *oe*
May be on diagram in correct place

M1

180 − 115 or 65 seen
May be on diagram in correct place

M1

90 seen
Could be a right angle symbol on diagram at B or in working, and must have gained at least M1

A1

Right-angled (triangle)
Need to see the interior angles of the triangle and must have gained at least M1

or Scalene

A1ft

[7]

Q9.

(a) 180 − 75 (= 105)

oe

M1

3a = their 105

Their 105 ÷ 3

M1dep

35

A1

(b) (180 − 40) ÷ 2

Allow invisible brackets

M1

70

A1

[5]

Q10.

(a) 180 − 115 or 65
or 180 − 40 − (180 − 115)
or 180 − 40 − 65
or 115 − 40

M1

75

A1

(b) x will be (2°) smaller

oe

x *will be 73°*

B1

Additional Guidance

If they give a numerical answer, it should be 2° less than their answer to (a)

[3]

Q11.

360 – (21 + 36 + 160 + 90)
or 360 – 307
or 270 – (21 + 36 + 160)
or 270 – 217

oe

M1

53

A1

Additional Guidance

53 (may be on diagram) with no incorrect working or no working

M1A1

53 on diagram with different answer on answer line

A0

360 – (21 + 36 + 160) or 360 – 217 or 143 (ignoring 90°)

M0A0

180 – (90 + 36) = 54

M0A0

[2]

Q12.

(a) A, B and D

B1 for 2 correct and no incorrect

B2

(b) C and D

B1 for 1 correct and no incorrect

B2

[4]

Q13.

(a) Parallel line drawn

Acetate will be provided to check that line is within ±2°

B1

(b) Perpendicular line drawn, any length

Allow if lines have right angle indicated and line doesn't appear to be perpendicular.

Lines do not have to cross.

Acetate will be provided to check that line is within ±2°

B1

[2]

Q14.

(a) *A*, *D* and *E*

any order

B1 for 2 correct

or for 2 correct and 1 incorrect

B2

(b) *C* and *E*

any order

B1 for 1 correct

or for 1 correct and 1 incorrect

B2

(c) *B*

B1

[5]