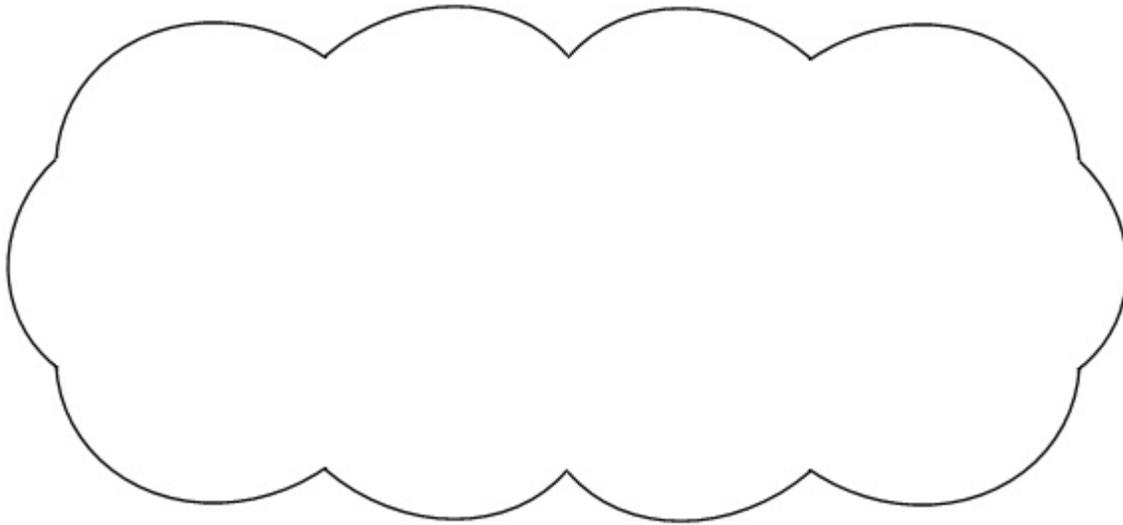**1** Kirsty says,

> When you double the size of an acute angle, you always get an obtuse angle.

Explain why Kirsty is **not** correct.
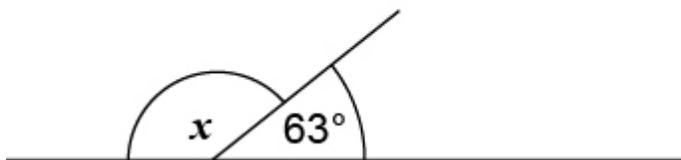
1 mark

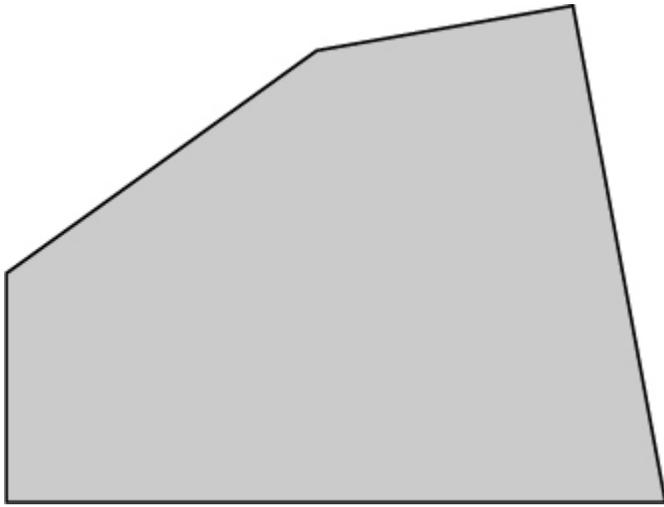**2** Calculate the size of angle x in the diagram.

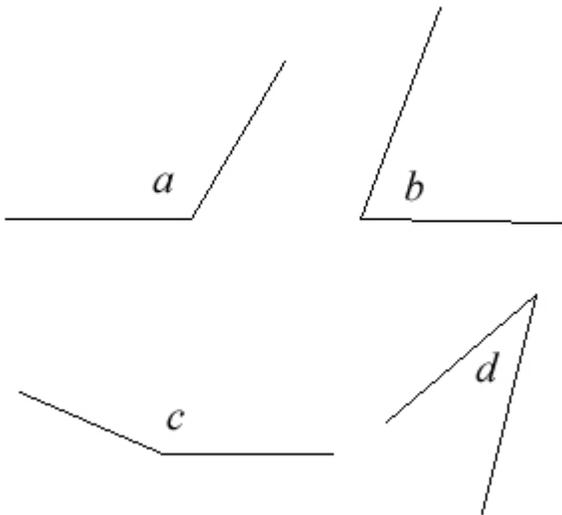Do not use a protractor (angle measurer).

not drawn accurately

x / 63°

1 mark

3 Look at this shape.

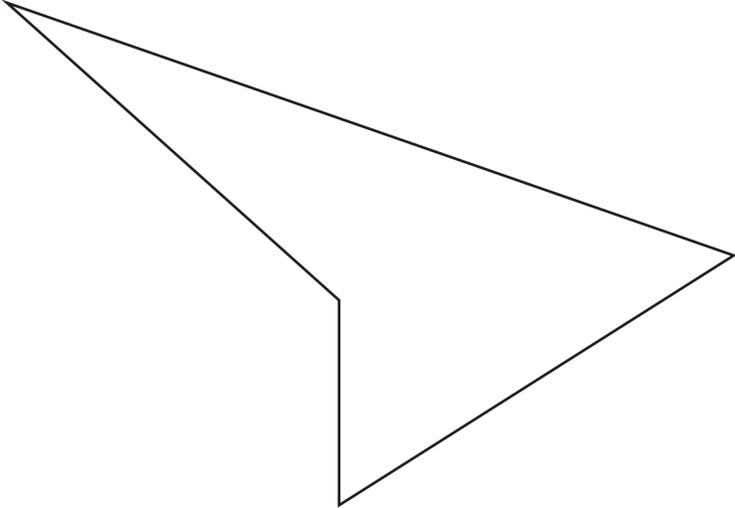Draw a cross in the corner with the largest angle.

1 mark

4 Look at angles a, b, c and d

Write the angles in order of size, starting with the smallest.

smallest

1 mark

5

Measure accurately the **longest side** of this shape.

Give your answer in millimetres.

```
                                              mm
```
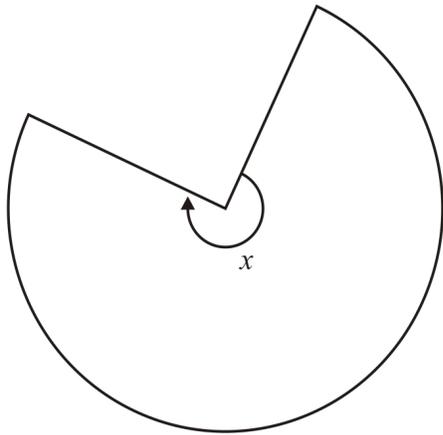
Measure accurately the **smallest angle** in the shape.

Use a protractor (angle measurer).

```
                                              o
```
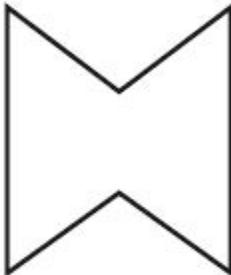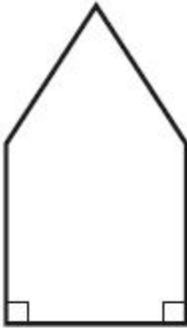
6 This shape is **three-quarters of a circle**.

How many degrees is **angle x**?

┌─────────────────────────────┐
│   ° │
└─────────────────────────────┘

1 mark

7

Circle the **pentagon** with exactly **four acute angles.**
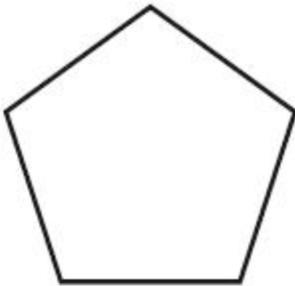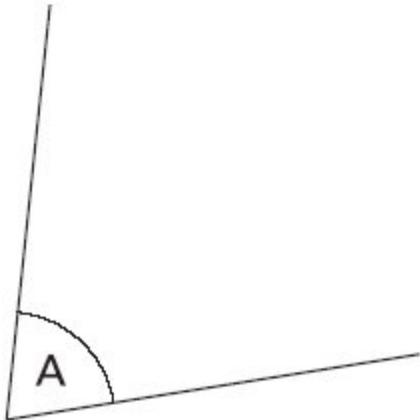
1 mark

8 Measure **angle A** accurately.

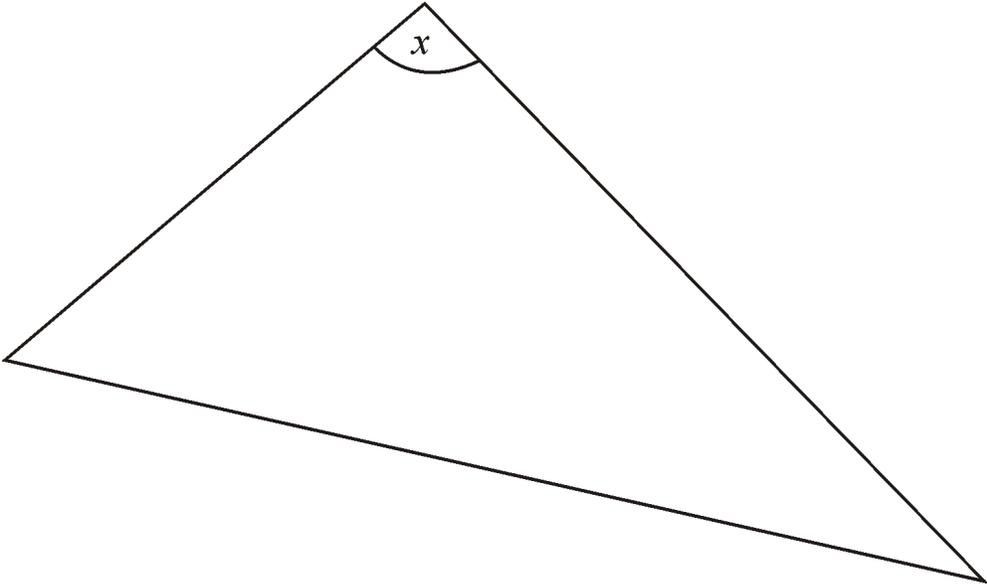Use a protractor (angle measurer).

angle A [°]

1 mark

9

Measure angle x accurately.

Use a protractor (angle measurer).
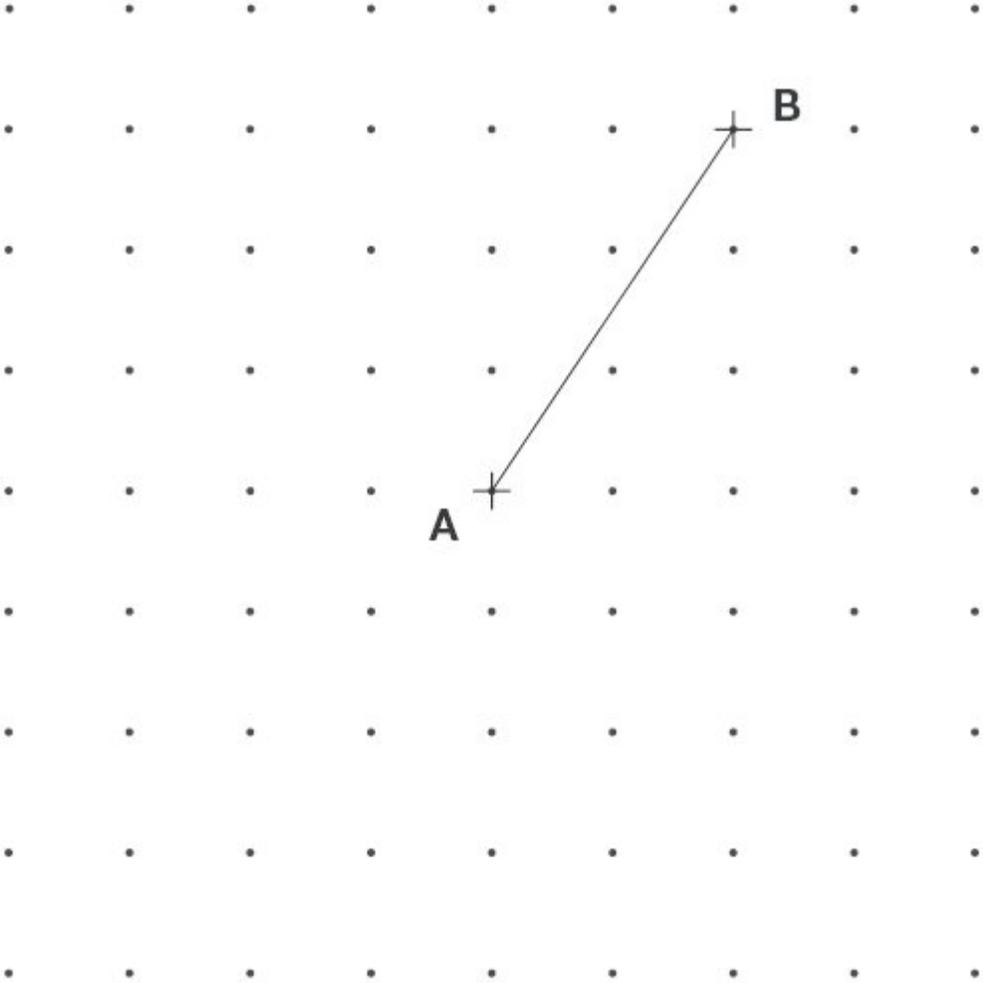
[°]

1 mark

10

Here is a grid of dots.

Point **A** and point **B** are joined by a straight line.

Draw a line to join point A to another dot on the grid so that the two lines make a right angle.

Use a ruler.

1 mark

Mark schemes

1 An explanation that includes a correct counter example, e.g.

- When you double 10° it is not obtuse
- 2 × 27° = 54°
- Double 45° is a right angle not obtuse

OR

An explanation that demonstrates where the statement in the question is not correct, e.g.
- If the acute angle is less than 45° then doubling it will be less than 90°, so it won't be obtuse (more than 90°).

> *Do not accept vague or incomplete explanations, e.g.*
> - *Sometimes it will be acute*
> - *Some acute angles are half an obtuse angle, but not all*
> - *When you double an acute angle, you get a right angle*
>
> *Do not accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g.*
> - *20°C × 2 = 40°C*
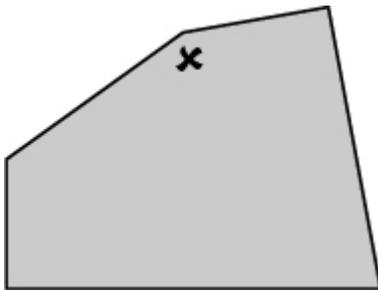> - *20% × 2 = 40%*

[1]

2 117°

[1]

3 Cross drawn in the top left corner as shown.

[1]

4 Letters written in order as shown

d, b, a, c

[1]

5 (a) Answer is teacher's measurement +/- 2 mm.

1

(b) Answer in the range 21 degrees to 23 degrees inclusive.
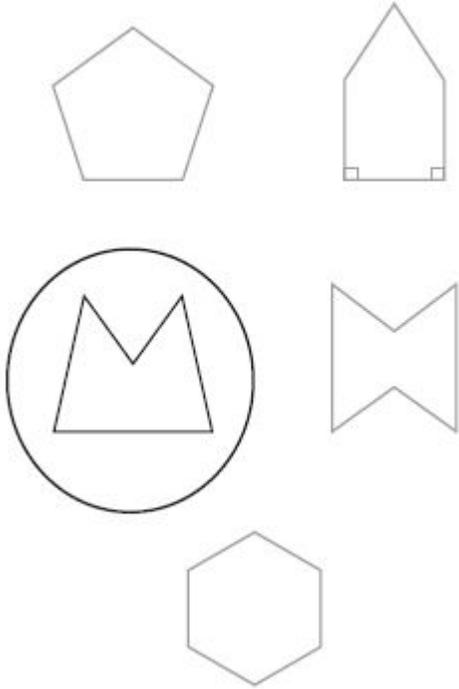
1

[2]

6 270°

[1]

7 The correct shape circled as shown:

Accept alternative unambiguous positive indications, e.g. shape ticked.

[1]

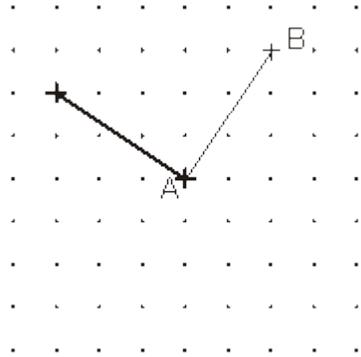**8** Answers in the range 74° to 76° inclusive.

[1]

9 Answer in the range 93 degrees to 97 degrees inclusive

[1]

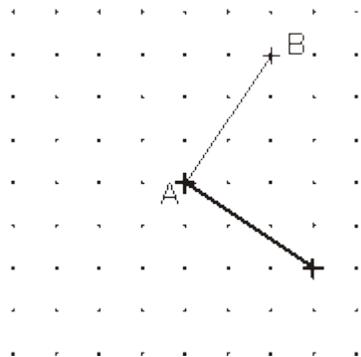**10** Line drawn from A to one of the two dots marked as shown:

OR

Accept slight inaccuracies in drawing

[1]