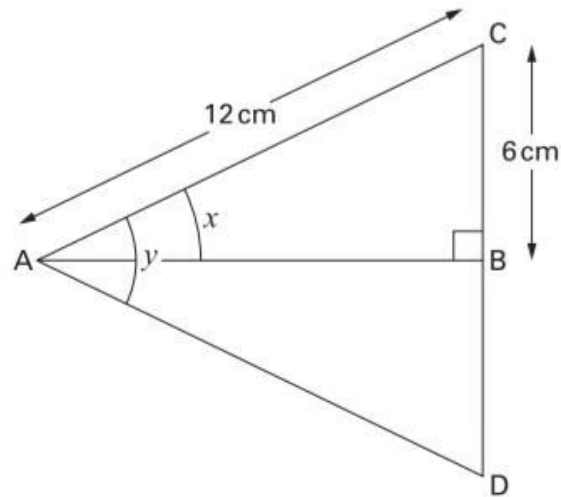## Five Angle Rules-Questions

Key Stage 3: 2003 Paper 2 Level 3-5

1.

---

17.   Look at the diagram.

Triangle ABD is the reflection of triangle ABC in the line AB.

12 cm

6 cm

x

y

A

B

C

D

Not drawn accurately

Fill in the gaps below to explain how to find angle *x*

The length of AC is ......12...... cm.

The length of AD is .... cm.

The length of CD is .... cm.

ACD is an equilateral triangle because ....

1 mark

so angle *y* is ....° because ....

1 mark
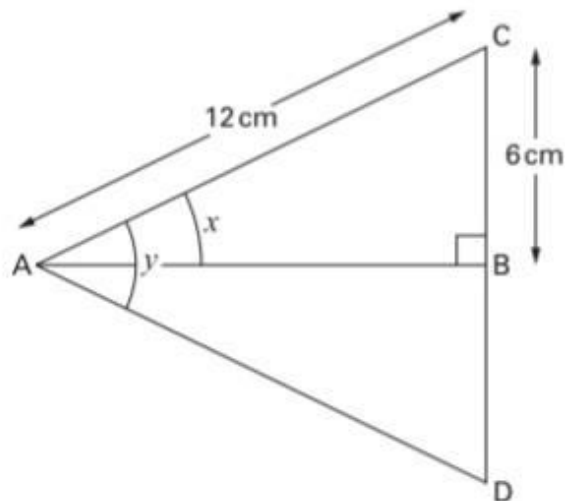
so angle *x* is ....° because ....

1 mark

Key Stage 3: Paper 2 Level 4-6

2.

11. Look at the diagram.

Triangle ABD is the reflection of triangle ABC in the line AB.

12 cm

6 cm

x

A

y

B

C

D

Not drawn accurately

Fill in the gaps below to explain how to find angle *x*

The length of AC is .... **12** .... cm.

The length of AD is .... cm.

The length of CD is .... cm.

ACD is an equilateral triangle because .... 1 mark

so angle *y* is .... ° because .... 1 mark

so angle *x* is .... ° because .... 1 mark

Key Stage 3: 2004 Paper 2 Level 3-5

3.

16. (a) A pupil measured the angles in a triangle.

She said:

> The angles are 30°, 60° and 100°

Could she be correct? Tick (✔) Yes or No.
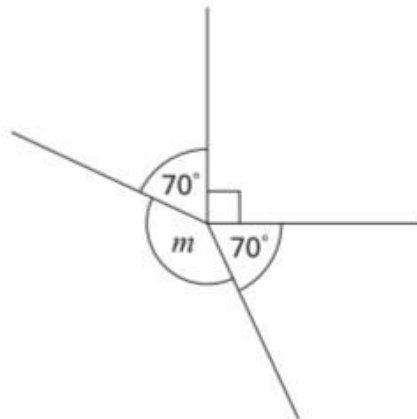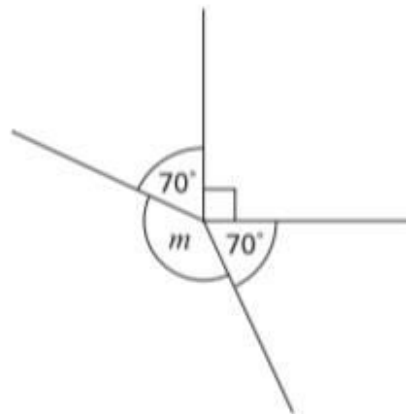
☐ Yes   ☐ No

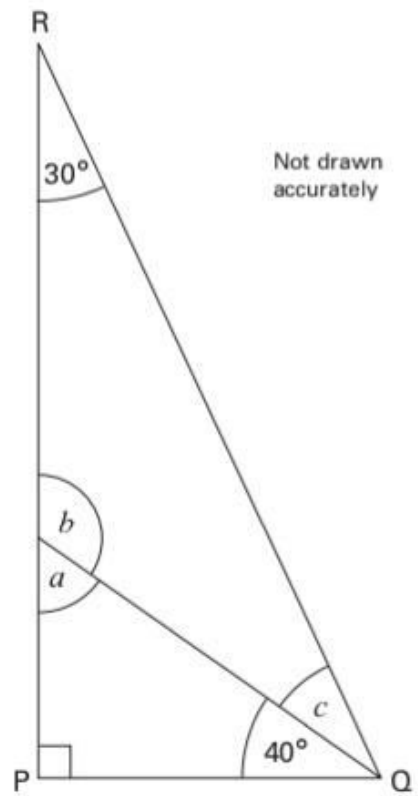Explain your answer.

(b) This diagram is not drawn accurately.

Calculate the size of angle *m*

Show your working.

°

Key Stage 3: 2004 Paper 2 Level 4-6

4.

9. (a) A pupil measured the angles in a triangle.

She said:

> The angles are 30°, 60° and 100°

Could she be correct? Tick (✓) Yes or No.

☐ Yes   ☐ No

Explain your answer.

1 mark

(b) This diagram is not drawn accurately.

Calculate the size of angle *m*

Show your working.

70°

m   70°

.... °

2 marks

Key Stage 3: 2005 Paper 1 Level 3-5

5.

20. The diagram shows triangle PQR.

R

30°

Not drawn
accurately

b

a

c

40°

P

Q

Work out the sizes of angles a, b and c

1 mark

1 mark

$a =$ ....° $b =$ ....° $c =$ ....°

1 mark

Key Stage 3: 2005 Paper 1 Level 4-6

6.

13. The diagram shows triangle PQR.

R

30°

Not drawn
accurately

b

a

c

40°

P

Q

Work out the sizes of angles a, b and c

1 mark

1 mark

$a = \ldots\ldots\ldots°$ $b = \ldots\ldots\ldots°$ $c = \ldots\ldots\ldots°$
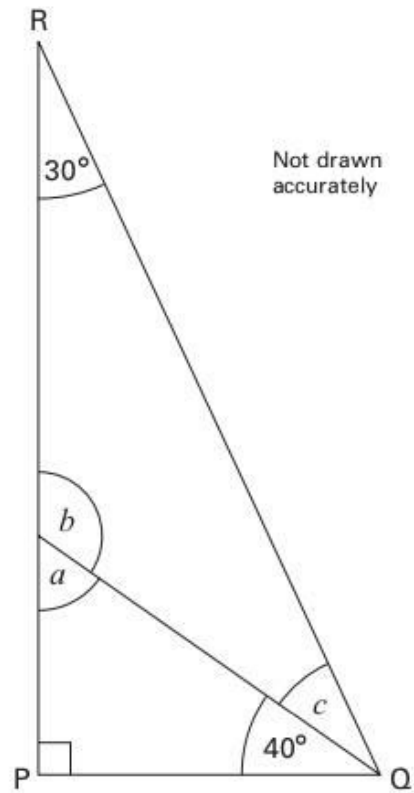
1 mark

7.

22. This shape has been made from two congruent **isosceles** triangles.
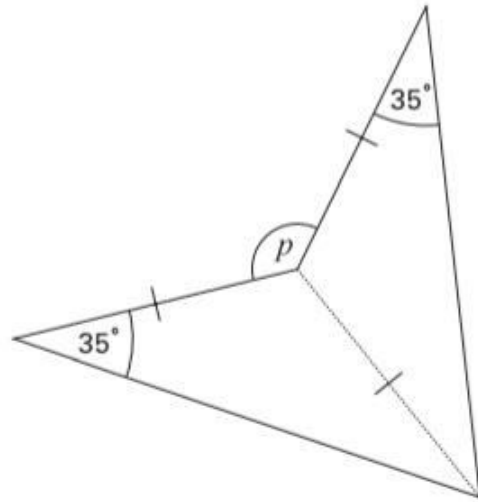
Not drawn accurately

What is the size of angle p?

$p =$ .... °

2 marks

Key Stage 3: 2007 Paper 2 Level 3-5

8.

20. (a) A triangle has **three equal sides**.

Write the sizes of the **angles** in this triangle.

_____ ° , _____ ° , _____ °

1 mark

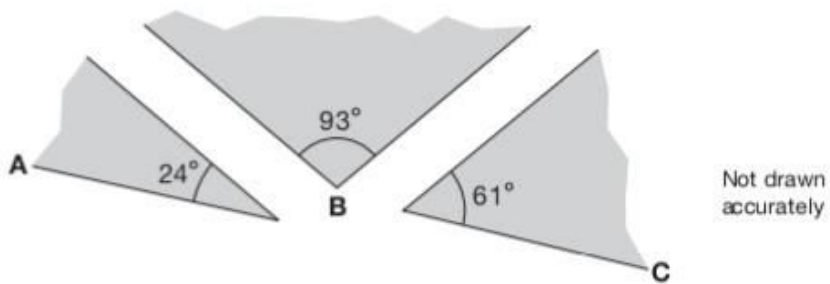**(b)** A **right-angled triangle** has **two equal sides**.

Write the sizes of the **angles** in this triangle.

_____ ° , _____ ° , _____ °

1 mark

9.

26. Three shapes fit together at point B.

93°

A

24°

B

61°

C

Not drawn accurately

Will ABC make a straight line?

☐ Yes   ☐ No

Explain your answer.

1 mark

Key Stage 3: 2007 Paper 1 Level 4-6

10.

20. The diagram shows three straight lines.

Not drawn accurately
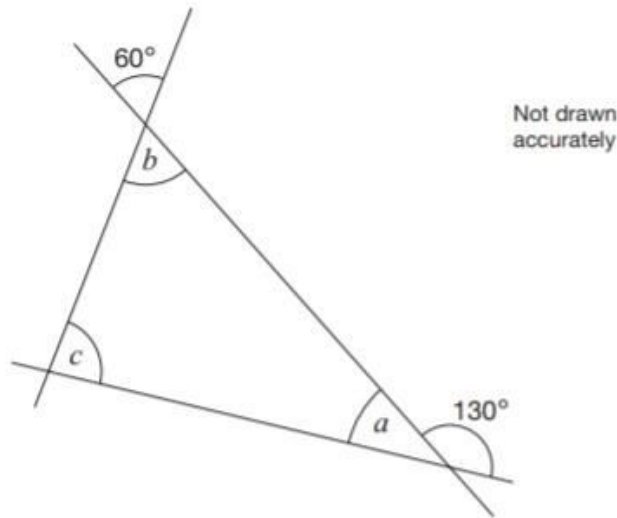
Work out the sizes of angles a, b and c

Give reasons for your answers.

$a = $ _____ ° because _____

_____

_____

1 mark

$b = $ _____ ° because _____

_____

_____

1 mark

$c = $ _____ ° because _____

_____

_____

1 mark

Key Stage 3: 2007 Paper 2 Level 4-6

11.

13. (a) A triangle has **three equal sides**.

Write the sizes of the **angles** in this triangle.
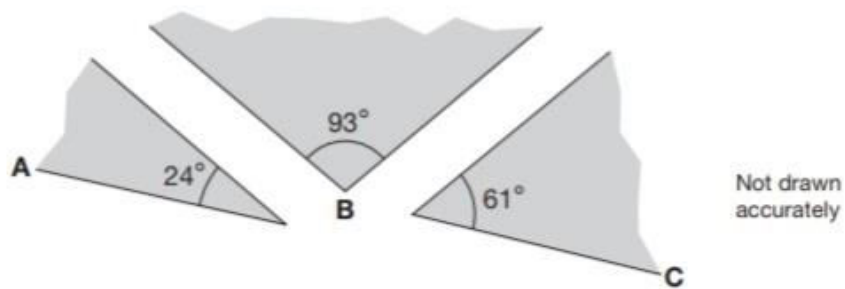
_____ ° , _____ ° , _____ °

1 mark

(b) A **right-angled triangle** has **two equal sides**.

Write the sizes of the **angles** in this triangle.

_____ ° , _____ ° , _____ °

1 mark

12.

19. Three shapes fit together at point B.

93°

A

24°

B

61°

C

Not drawn accurately

Will ABC make a straight line?
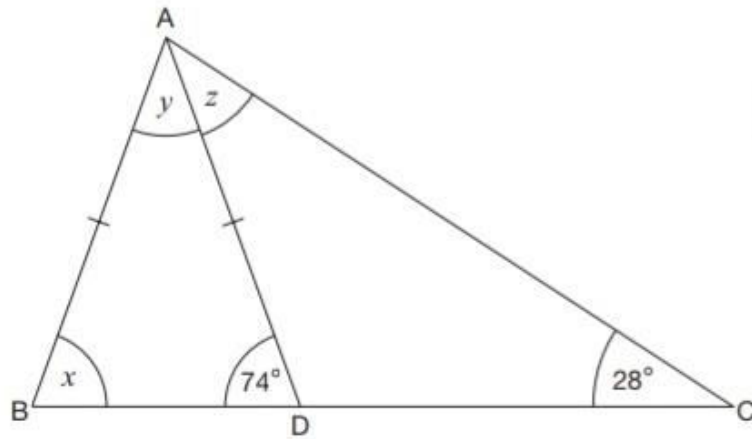
☐ Yes ☐ No

Explain your answer.

1 mark

Key Stage 3: 2008 Paper 2 Level 4-6

13.

29. Look at triangle ABC.

ABD is an **isosceles** triangle where AB = AD.

Not drawn accurately

Work out the sizes of angles x, y and z

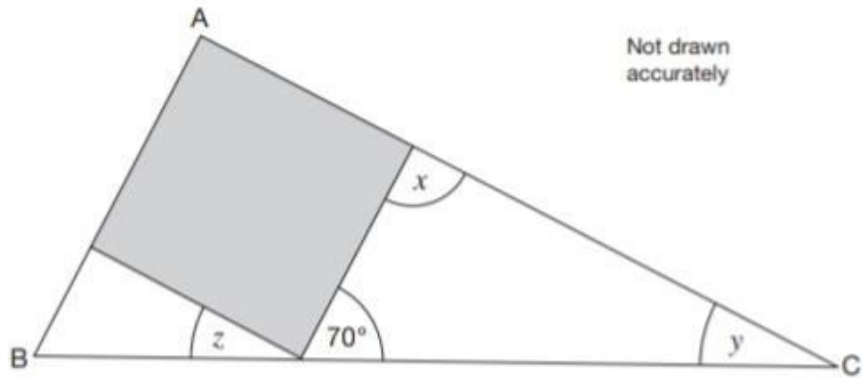Give reasons for your answers.

$x =$ _____ ° because _____

_____

$y =$ _____ ° because _____

_____

$z =$ _____ ° because _____

_____

_____

2 marks

Key Stage 3: 2009 Paper 1 Level 3-5

14.

23. Look at the right-angled triangle ABC.

Not drawn accurately

The square fits exactly inside the triangle.

Work out the sizes of angles x, y and z

$x =$ _____ °

$y =$ _____ °

$z =$ _____ °

_____
_____
_____

3 marks

Key Stage 3: 2009 Paper 1 Level 4-6

15.

16. Look at the right-angled triangle ABC.
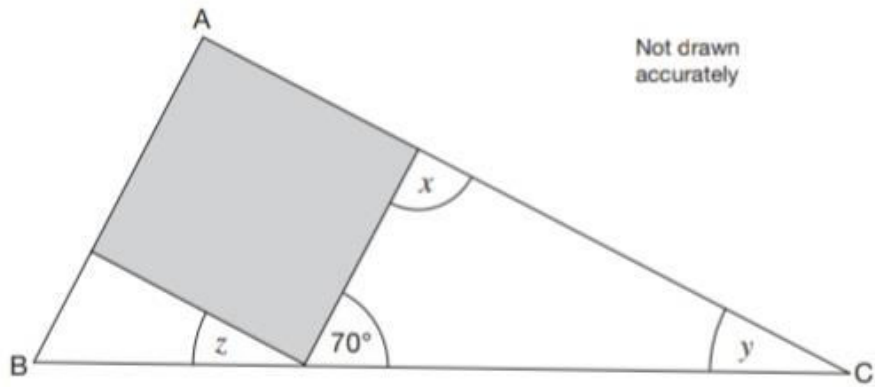
A

Not drawn
accurately

x

z   70°

B

y

C

The square fits exactly inside the triangle.

Work out the sizes of angles x, y and z

$x =$ _____ °

$y =$ _____ °

$z =$ _____ °
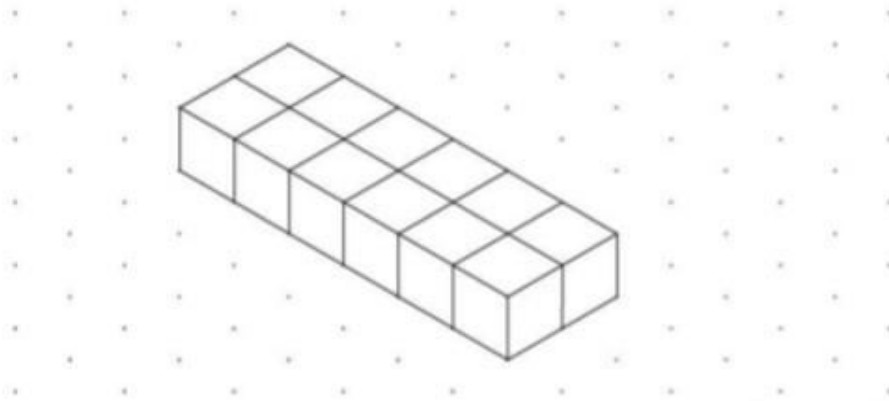
_____

_____

_____

3 marks

Key Stage 3: 2009 Paper 2 Level 4-6

16.

16.   Look at the cuboid drawn on the grid.

It is made from **12 cubes**.

Isometric grid

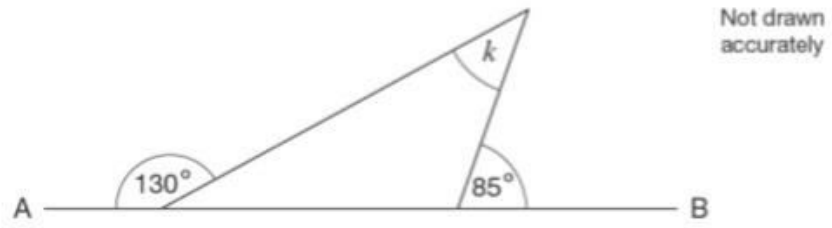On the grid below, draw a **different** cuboid made from 12 cubes.

Isometric grid

2 marks

17.

20. Look at the diagram.

Not drawn accurately

AB is a straight line.

Work out the size of angle *k*

$k =$ _____°

2 marks

Key Stage 3: 2010 Paper 2 Level 4-6

18.

23. (a) Is it possible to draw a triangle with **angles** 150°, 10° and 10°?

☐ Yes   ☐ No

Explain your answer.

(b) Is it possible to draw a triangle with **sides** 150cm, 10cm and 10cm?

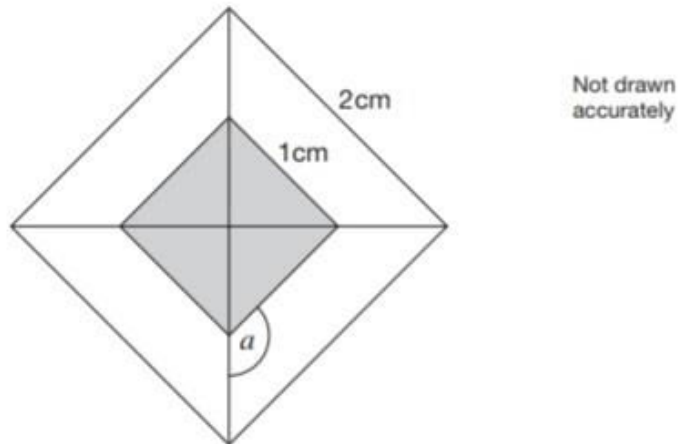☐ Yes   ☐ No

Explain your answer.

Key Stage 3: 2011 Paper 1 Level 4-6

19.

26. The diagram shows a design made from **two squares** and their diagonals.
The squares have side lengths 2cm and 1cm.

2cm

1cm

a

Not drawn
accurately

(a) Without measuring, explain why angle *a* must be **135°**

✎

1 mark

(b) Some of the design is shaded grey. Some is white.

What is the **ratio** of the grey area to the white area?
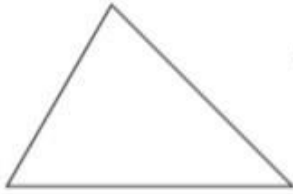
✎ _____ : _____

1 mark

Key Stage 3: 2011 Paper 2 Level 4-6

20.

19. In a triangle, the largest angle is **20 degrees larger** than the smallest angle.

Not drawn accurately

Write down what the three angles could be for this triangle.

°	°	°

_____

2 marks