Name:

Exam Style Questions

Pythagoras

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

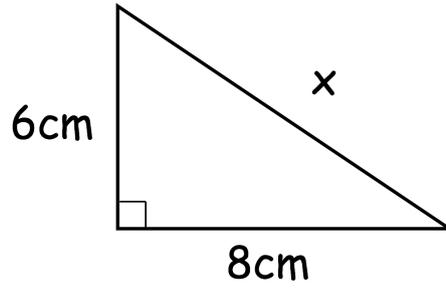Video Tutorial

www.corbettmaths.com/contents

Video 257

Answers and Video Solutions

1. Shown below is a right angled triangle.

Not drawn accurately

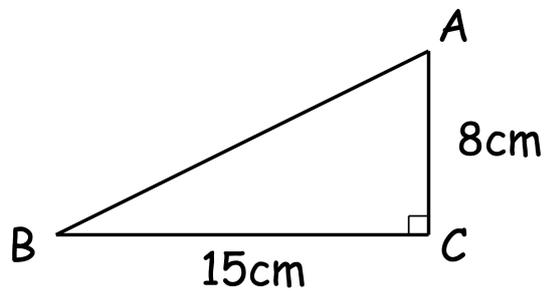6cm

x

8cm

Use Pythagoras' theorem to work out the value of x.

.... cm

(3)

2.

Not drawn accurately

A

8cm

B

15cm

C

ABC is a right angled triangle.

AC = 8cm
BC = 15cm

Calculate the length of AB.

.... cm

(3)

3.

Not to scale

20cm

A

6cm

B

C
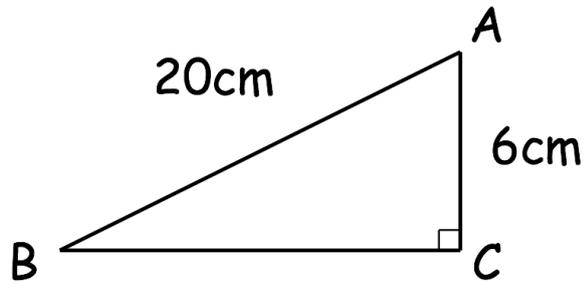
ABC is a right-angled triangle.

AC = 6cm
AB = 20cm

Calculate the length of BC.
Give your answer correct to 1 decimal place.

.... cm

(3)

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4. Below is a right-angled triangle.

3m

Not drawn
accurately

x m

9.25m
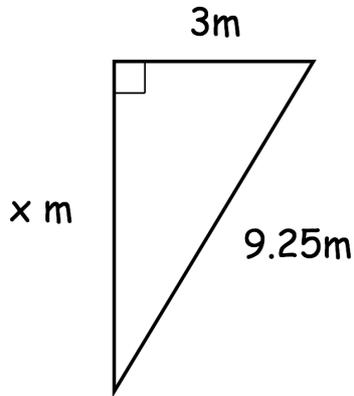
Work out the value of x

....................m

(3)

5. Shown below is a right angled triangle, CDE.

Not to scale

E

13cm

D

12cm

C
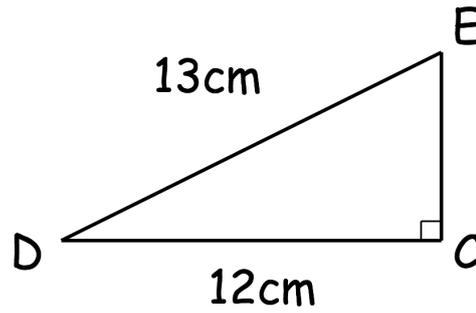
Work out the length of CE.

....................cm
(3)

6.

A

Not drawn
accurately

7cm

B

C
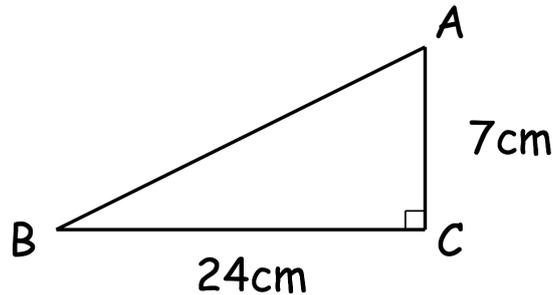
24cm

ABC is a right-angled triangle.
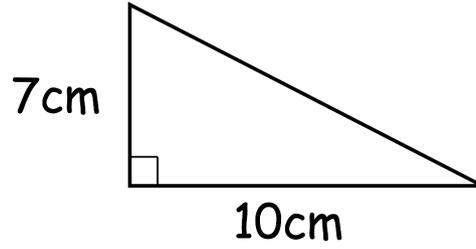
AC = 7cm.
BC = 24cm.

Calculate the length of AB.

.... cm
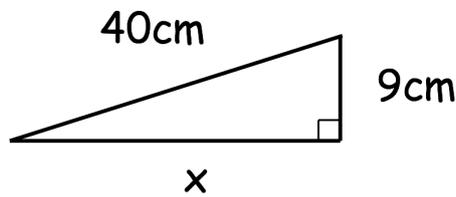**(3)**

7. Shown is a right-angled triangle.

Not to scale

7cm

10cm

Work out the perimeter of the triangle
Give your answer to 1 decimal place.

.... cm

(4)

8.

40cm

9cm

x

Charles says that the length of the missing side is 41cm.
Here is his method:

$$a^2 + b^2 = c^2$$
$$9^2 + 40^2 = x^2$$
$$81 + 1600 = x^2$$
$$x^2 = 1681$$
$$x = 41cm$$

Explain his mistake.

....

....

(1)

9.
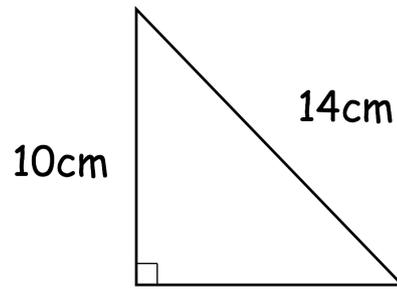
Not drawn to scale

Shown is a right-angled triangle.

Calculate the area of the triangle

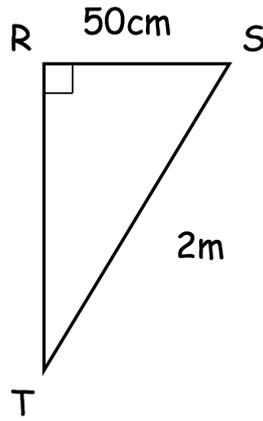.................... cm²

(4)

10.
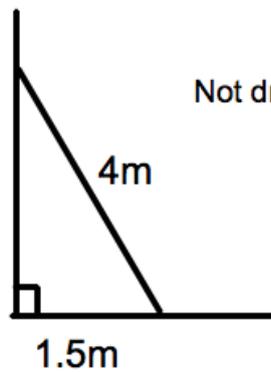
Not drawn to scale

A 4 metre ladder is placed against a vertical wall.
The base of the ladder is 1.5 metres from the base of the wall.

Work out how far the ladder reaches up the wall.

.... m

(3)

11.

R ⌐50cm┐ S

Not drawn accurately

2m

T

RST is a right-angled triangle.

RS is 50cm
ST is 2m

Calculate the length of RT
Give your answer in metres, correct to 1 decimal place.

.... m

(4)

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12. Belinda sketches the triangle below.

Not drawn accurately

4.5cm   5.3cm

2.8cm
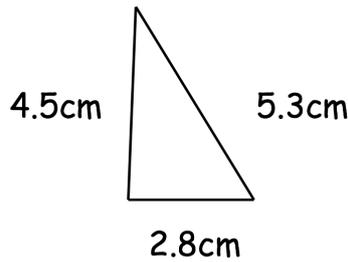
Show that the triangle is right-angled.

(2)

13. Nicole draws a triangle.

The lengths of the sides are 4cm, 6cm and 7cm.

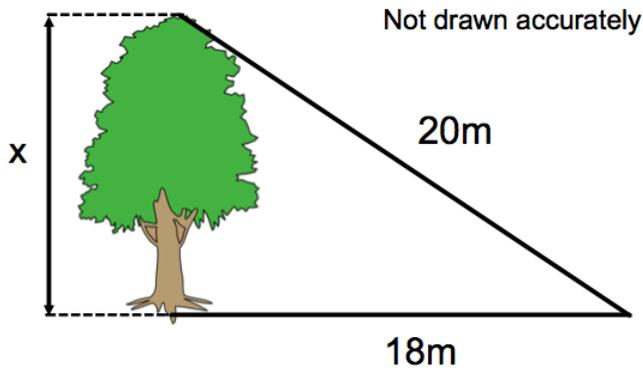Is the triangle a right-angled triangle?
Explain your answer.

....

....

....

(2)
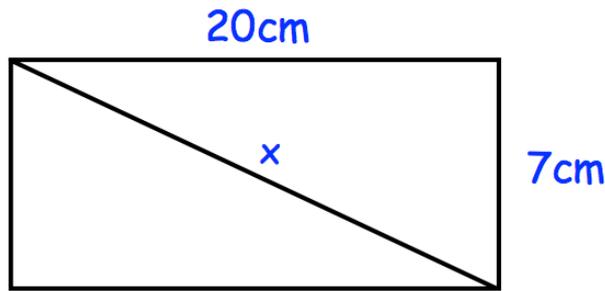
14.

Not drawn accurately

20m

x

18m

The distance from a point on the ground to the base of a tree is 18 metres.
The distance from a point on the ground to the top of a tree is 20 metres.

Calculate the height of the tree.
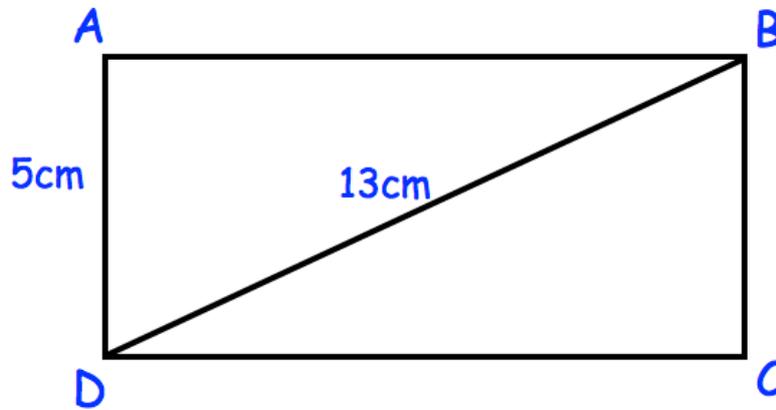Give the answer correct to 1 decimal place.

.... m

(3)

15. Shown below is a rectangle.

20cm

x

7cm

Find the length of the diagonal, x.

........................cm

(3)

16. Below is rectangle, ABCD

A   B

5cm   13cm

D   C

AD = 5cm
BD = 13cm

Calculate the area of rectangle ABCD.

.......................cm²

(3)

17. ABC is an isosceles triangle.

   AB = BC = 8cm
   AC = 5cm

B

8cm

h

A   5cm   C
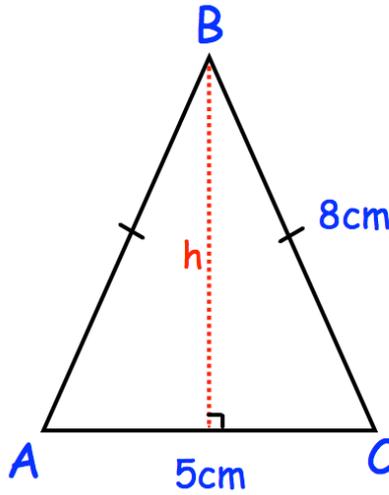
Calculate the height of the triangle, h.

........................cm

(3)

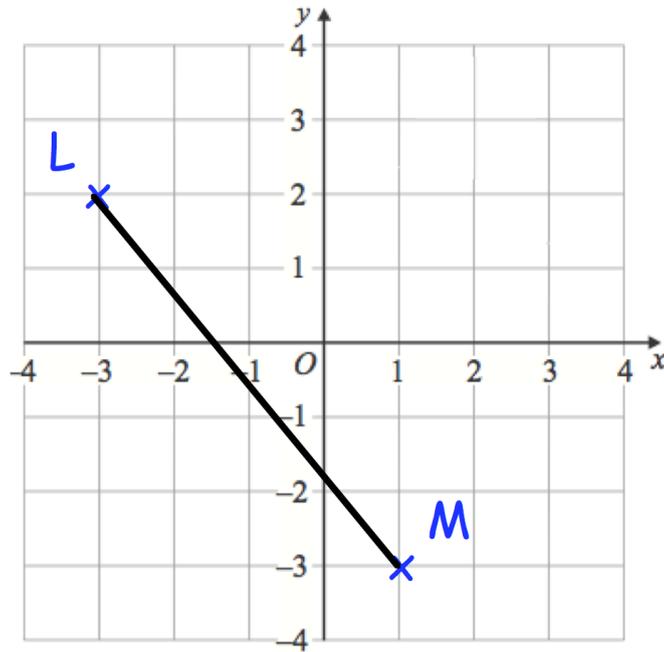18. A helicopter is flying from Redville to Leek.

   The helicopter departs Redville, flies 60 miles **west**, then 25 miles **north** and arrives in Leek.

   Work out the direct distance of Leek from Redville.

........................miles

(3)

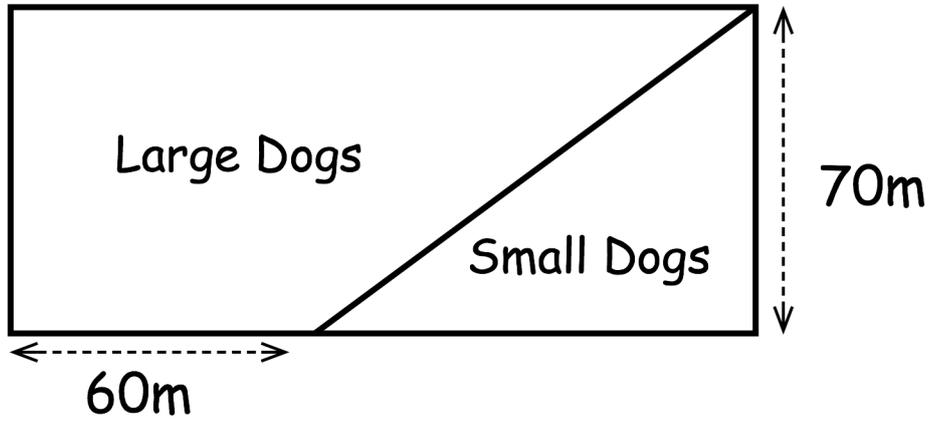19. A line joining the points L (–3, 2) and M(1, –3)

Work out the length of line LM.
Give your answer to 3 decimal places.

....

(3)

20. A council are designing a dog park that will be in a rectangular field.
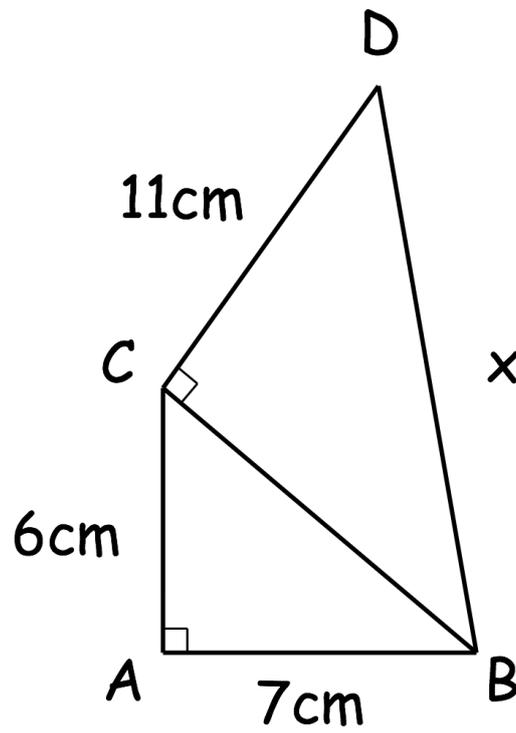The length of the field is twice the width of the field.

The field will be divided by a wall into two sections, one for large dogs and the other for small dogs.

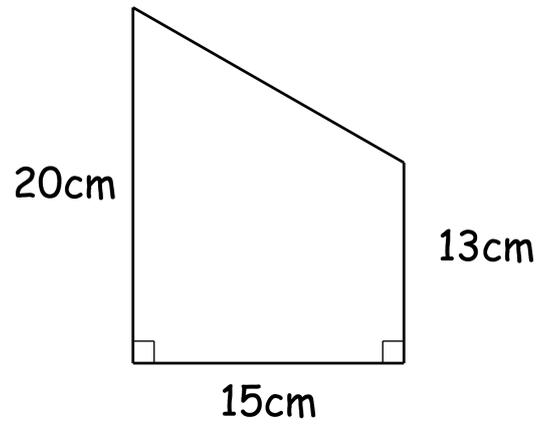Work out the length of the wall dividing the two sections.

........................m

(4)

21. Below are two triangles, ABC and BCD.

Find the length of BD.

.........................cm

(4)

22. A frame is made from wire.
The frame is a trapezium.

Calculate the total length of wire needed to make the frame.
Give your answer to 2 decimal places.

........................cm

(4)

23. Shown below is an equilateral triangle of side length 4cm
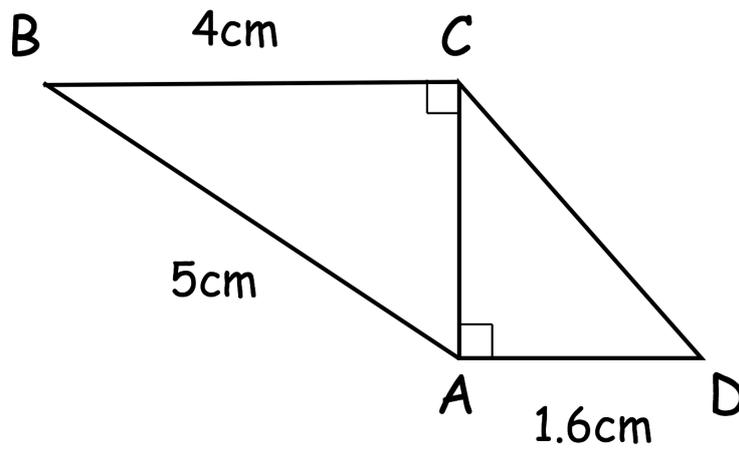
Not drawn
accurately

4cm
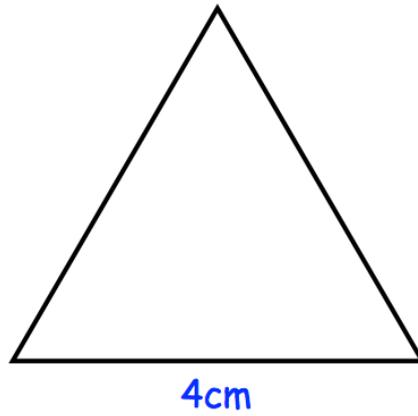
Calculate the area of the triangle

........................cm²

(5)

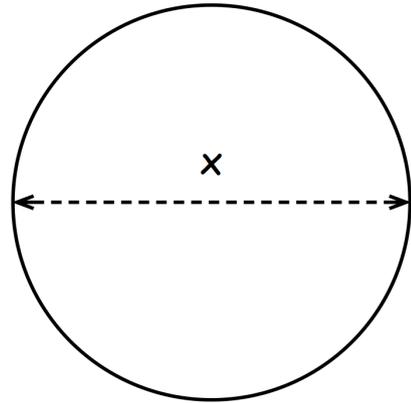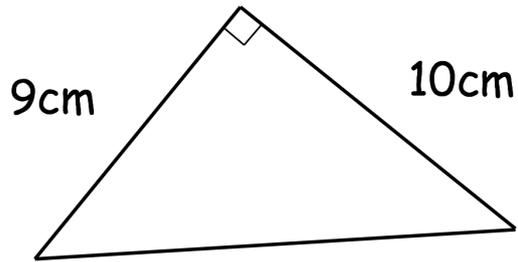24. Rebecca makes a metal frame for a brooch by joining 5 pieces of wire.

B   4cm   C

Not drawn accurately

5cm

A   1.6cm   D

The mass of the wire is 0.489g per centimetre.

Calculate the mass of the metal frame.

.........................g

(5)

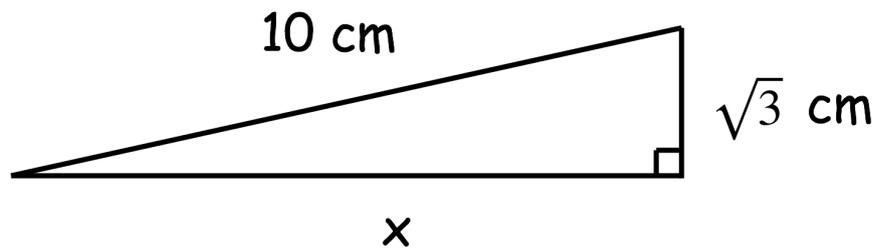25. Shown below is a right-angled triangle and a circle.

The perimeter of the triangle is equal to the circumference of the circle.

Find the diameter of the circle, x.

.........................cm

(4)

26. Shown below is a right-angled triangle.

Work out the length of x
Leave your answer as a surd.

..........................cm

(3)