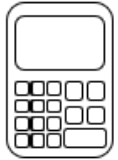
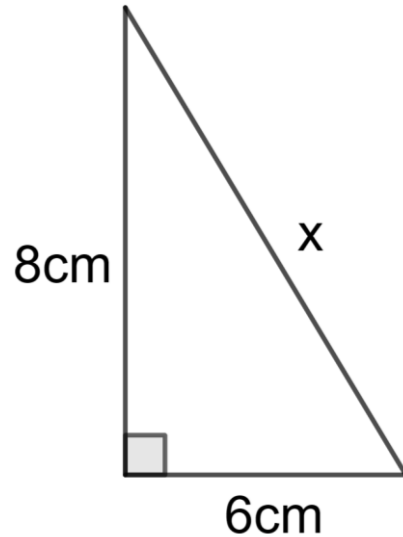


* Diagrams not drawn to scale

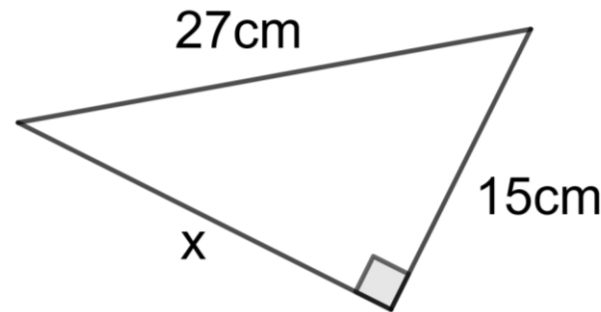
Pythagoras' Theorem



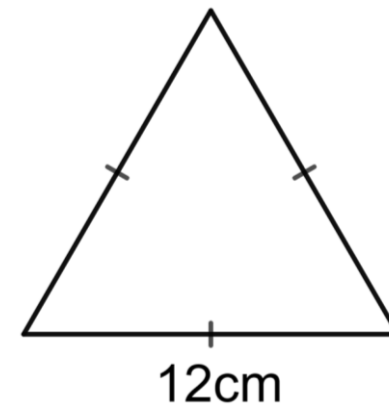
1. Calculate x .



2. Calculate x .
Give your answer to 2 decimal places.



3. An equilateral triangle has sides of length 12cm. What is the perpendicular height of the triangle?



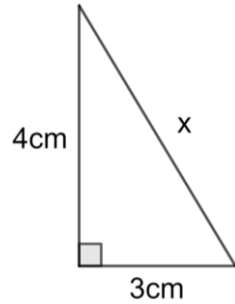
G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

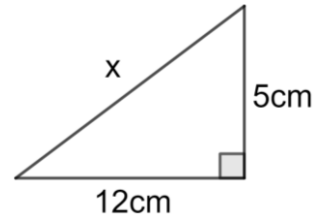
I'm giving it a try!

For each triangle below, calculate x . Give your answer to 2 decimal places where necessary:

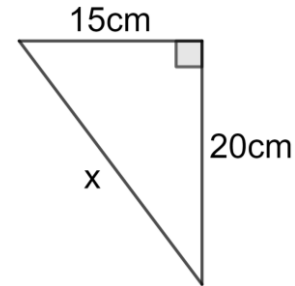
(a)



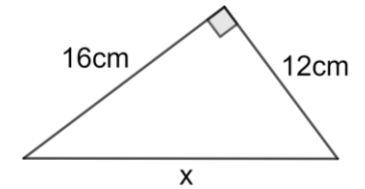
(b)



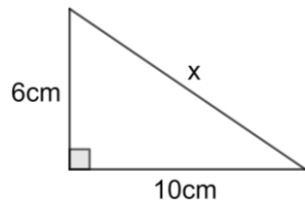
(c)



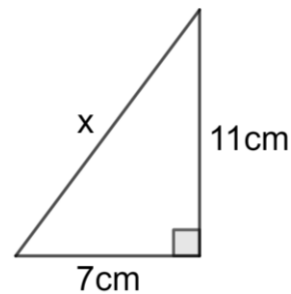
(d)



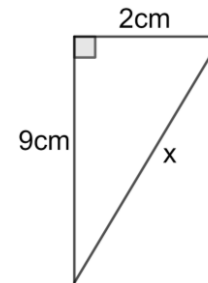
(e)



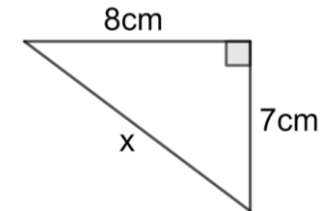
(f)



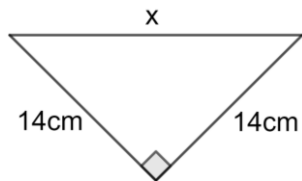
(g)



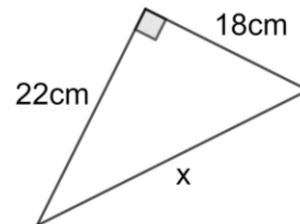
(h)



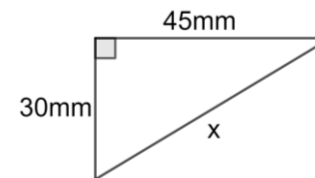
(i)



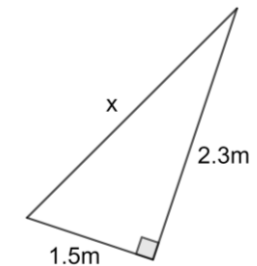
(j)



(k)



(l)



My Reflections...



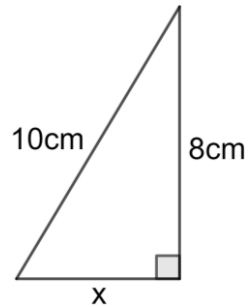
G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

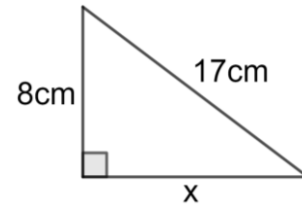
I'm building my confidence!

For each triangle below, calculate x . Give your answer to 2 decimal places where necessary:

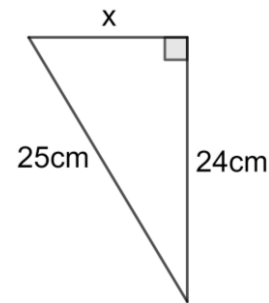
(a)



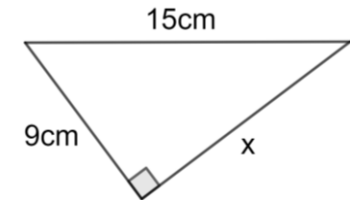
(b)



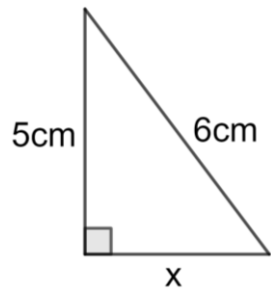
(c)



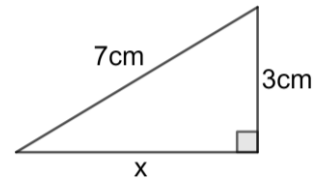
(d)



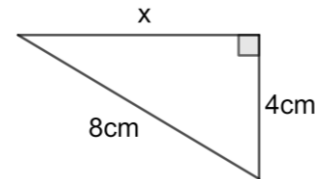
(e)



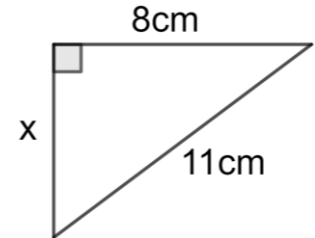
(f)



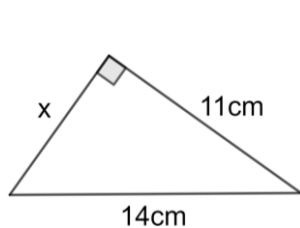
(g)



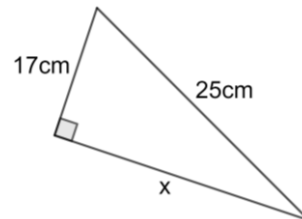
(h)



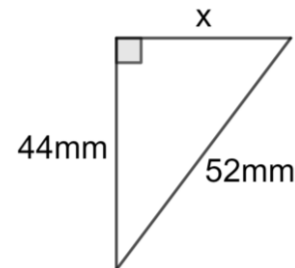
(i)



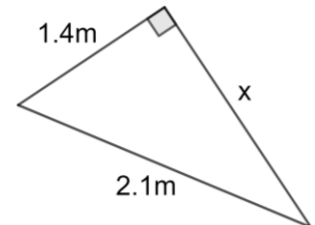
(j)



(k)



(l)



My Reflections...



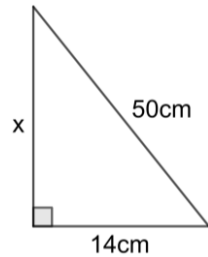
G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

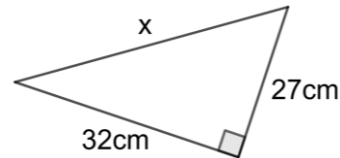
I'm ready for anything!

1. For each triangle below, calculate x. Give your answer to 2 decimal places where necessary:

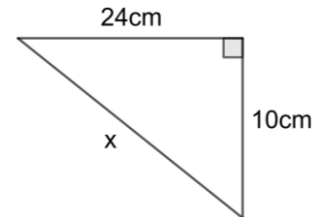
(a)



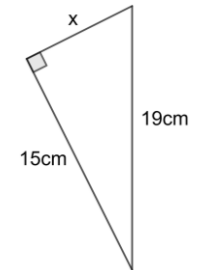
(b)



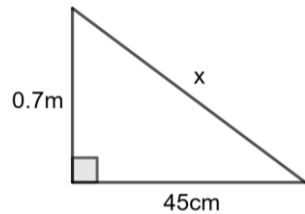
(c)



(d)



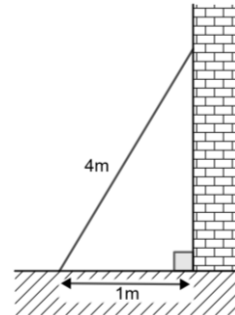
2.



Find x.

Give your answer to 2 decimal places and include suitable units.

3.



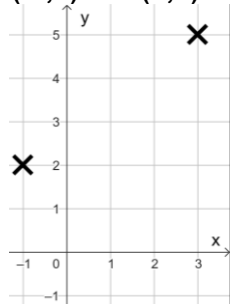
The base of a 4m long ladder is placed 1m away from the side of a house. How far up the wall will the ladder reach?

4.

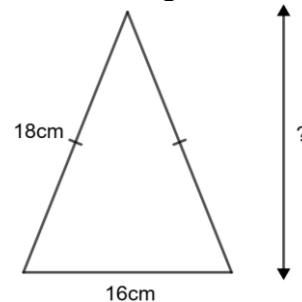


Paris is 200 miles due South and 75 miles due East of London. How far, directly, is Paris from London?

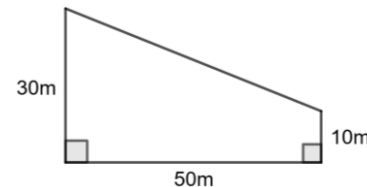
6. Find the distance between the co-ordinates (-1,2) and (3,5).



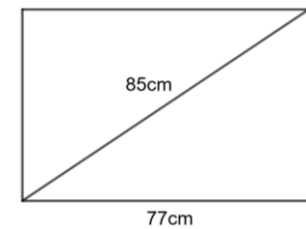
7. Find the perpendicular height of the isosceles triangle below.



8. A farmer wants to put a fence around his field. Fencing costs £40 per metre. How much will the farmer spend?

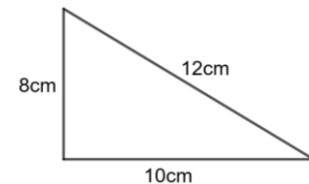


5.



A TV screen is 77cm long and 85cm diagonally across. Find the area of the screen.

9. Is the triangle below a right-angled triangle?



My Reflections...



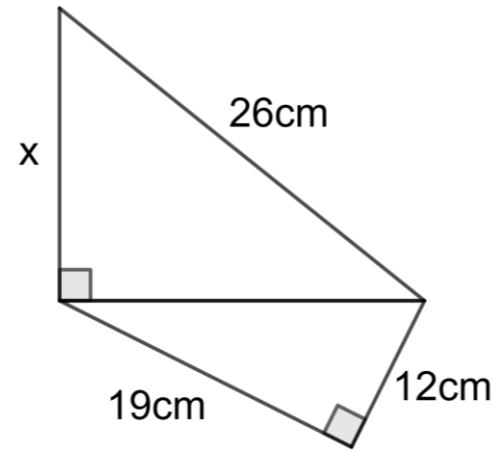
G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

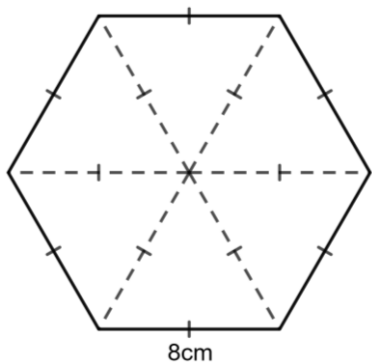
Extension

A right-angle triangle has got one side of length 15cm and another side of length 21cm.
Find the 2 possible lengths of the third side?

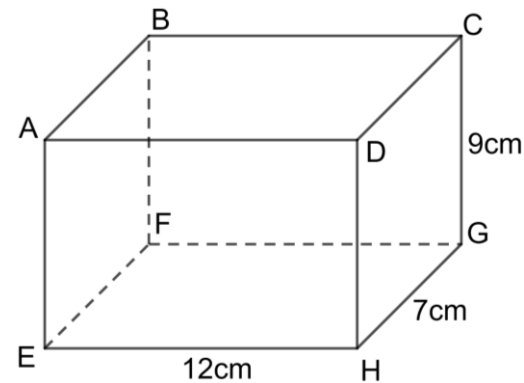
Find x.



A regular hexagon is made up of 6 equilateral triangles.
Calculate the area of a regular hexagon with length 8cm.
Give your answer in the form $a\sqrt{b}$.



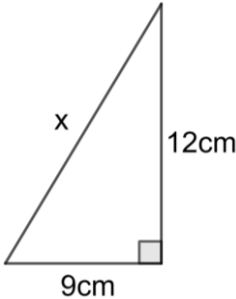
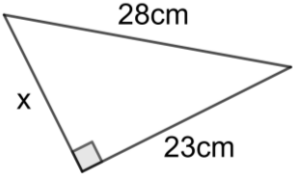
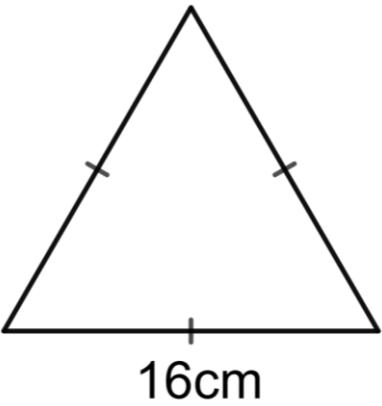
Here is a cuboid. Calculate length CE.



G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

Homework

Retrieval Homework	Topic Homework
1) Calculate $\frac{3}{8} + \frac{2}{7}$ 2) Share 63 in the ratio 1 : 8 3) Expand $(x + 4)(x - 9)$ 4) Increase £180 by 75% 5) Solve $4(3y - 2) = 16$	1. Calculate x.  2. Calculate x. Give your answer to 2 decimal places.  3. An equilateral triangle has sides of length 16cm. What is the perpendicular height of the triangle? 

My Reflections...



G 10.1 Pythagoras' Theorem

* Diagrams not drawn to scale

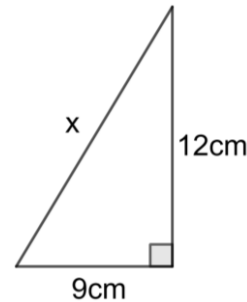
Homework

Retrieval Homework

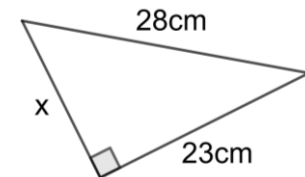
- 1) Calculate $\frac{3}{8} + \frac{2}{7}$
- 2) Share 63 in the ratio 1 : 8
- 3) Expand $(x + 4)(x - 9)$
- 4) Increase £180 by 75%
- 5) Solve $4(3y - 2) = 16$

Topic Homework

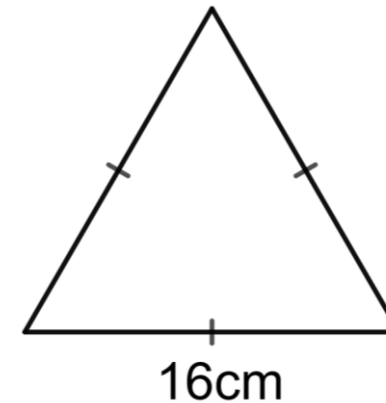
1. Calculate x.



2. Calculate x. Give your answer to 2 decimal places.



3. An equilateral triangle has sides of length 16cm. What is the perpendicular height of the triangle?



My Reflections...



G 10.1 Pythagoras' Theorem

I'm giving it a try!

- | | | | |
|-------------|-------------|-------------|-------------|
| (a) 5cm | (b) 13cm | (c) 25cm | (d) 20cm |
| (e) 11.66cm | (f) 13.04cm | (g) 9.22cm | (h) 10.63cm |
| (i) 19.80cm | (j) 28.43cm | (k) 54.08mm | (l) 2.75m |

I'm building my confidence!

- | | | | |
|------------|-------------|-------------|------------|
| (a) 6cm | (b) 15cm | (c) 7cm | (d) 12cm |
| (e) 3.32cm | (f) 6.32cm | (g) 6.93cm | (h) 7.55cm |
| (i) 8.66cm | (j) 18.33cm | (k) 27.71mm | (l) 1.57m |

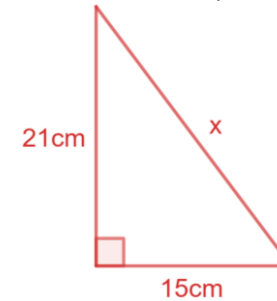
I'm ready for anything!

- | | | | |
|--|-------------|---|-------------|
| 1. (a) 48cm | (b) 41.87cm | (c) 26cm | (d) 11.66cm |
| 2. 0.83m or 83.22cm | | 3. 3.87m (2dp) | |
| 4. 213.60 miles (2dp) | | 5. Width = 36cm
Area = 2772cm ² | |
| 6. $\sqrt{4^2 + 3^2} = 5$ | | 7. $\sqrt{18^2 - 8^2} = 16.12cm$ | |
| 8. $\sqrt{50^2 + 20^2} = 53.85 \dots m$
Perimeter = 143.85...m
Cost = £5754.07 | | 9. No $8^2 + 10^2 \neq 12^2$ | |

Extension

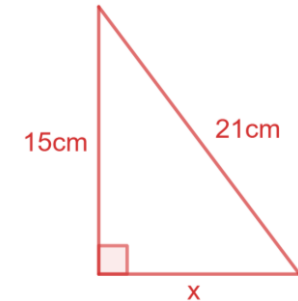
A right-angle triangle has got one side of length 15cm and another side of length 21cm.

Find the 2 possible lengths of the third side?



$$15^2 + 21^2 = c^2$$

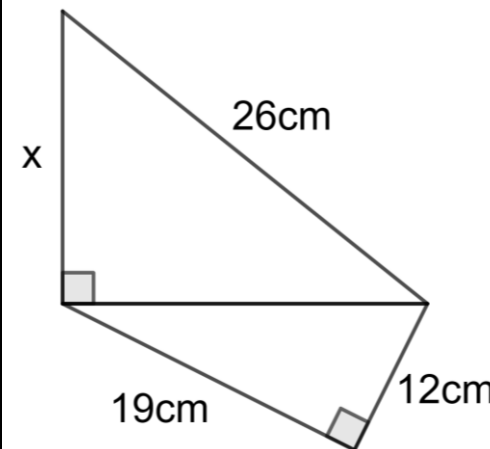
$$c = \sqrt{15^2 + 21^2} = 25.8cm \text{ (1dp)}$$



$$a^2 + 15^2 = 21^2$$

$$a = \sqrt{21^2 - 15^2} = 14.7cm \text{ (1dp)}$$

Find x.



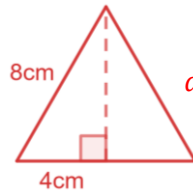
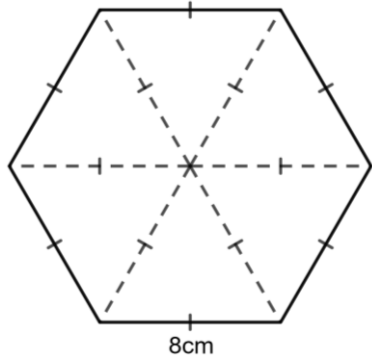
$$? = \sqrt{19^2 + 12^2} = \sqrt{505}$$

$$\begin{aligned} x &= \sqrt{26^2 - (\sqrt{505})^2} \\ &= \sqrt{26^2 - 505} \\ &= \sqrt{171} = 13.1cm \text{ (1dp)} \end{aligned}$$

G 10.1 Pythagoras' Theorem

A regular hexagon is made up of 6 equilateral triangles. Calculate the area of a regular hexagon with length 8cm.

Give your answer in the form $a\sqrt{b}$.



$$\text{height} = \sqrt{8^2 - 4^2} = \sqrt{48}$$

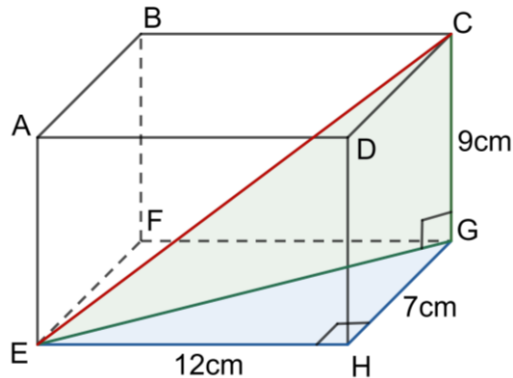
area of equilateral triangle

$$= \frac{1}{2} \times 8 \times \sqrt{48} = 4\sqrt{48}$$

$$\text{area of hexagon} = 6 \times 4\sqrt{48}$$

$$= 24\sqrt{48} = 96\sqrt{3}$$

Here is a cuboid. Calculate length CE.



$$EG = \sqrt{12^2 + 7^2} = \sqrt{193}$$

$$CE = \sqrt{9^2 + (\sqrt{193})^2}$$

$$= \sqrt{81 + 193}$$

$$= \sqrt{274} = 16.6\text{cm (1dp)}$$

Homework

Retrieval Homework

(1) $\frac{37}{56}$ (2) $7 : 56$ (3) $x^2 - 5x - 36$ (4) £315 (5) $y = 2$

Topic Homework

1. 15cm

2. 15.97cm

3. $\sqrt{16^2 - 8^2} = 13.86\text{cm (2dp)}$