

Name:

Measuring

Solids

Additional Tasks





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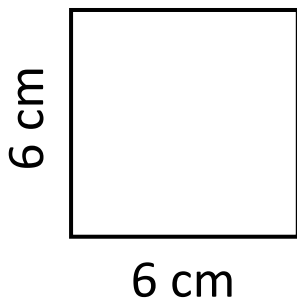


Quiz 1

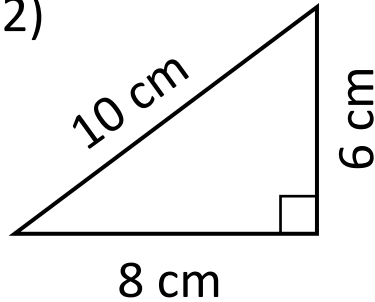


Calculate the area of the following shapes.

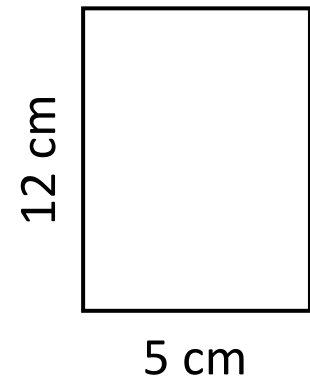
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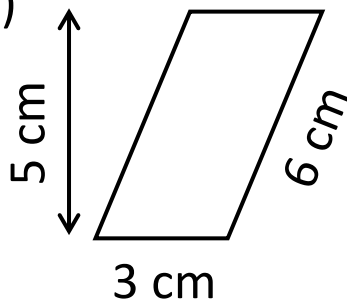
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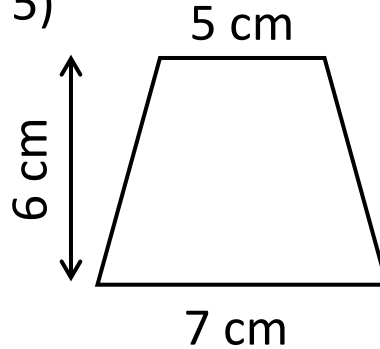
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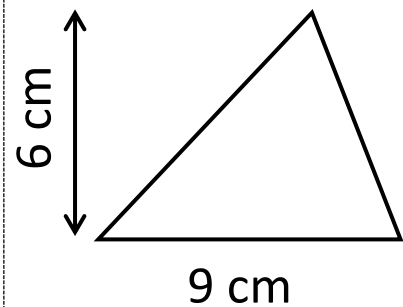
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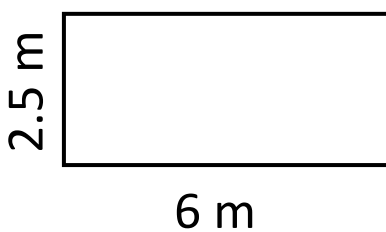
5)



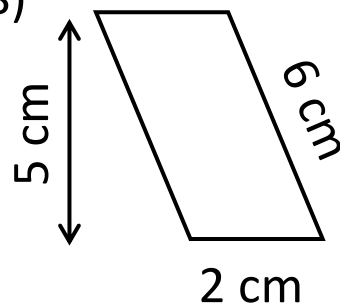
6)



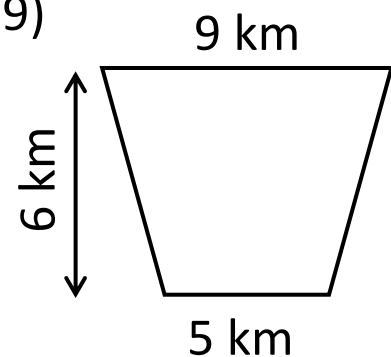
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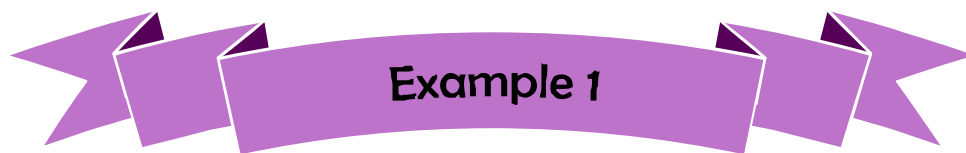
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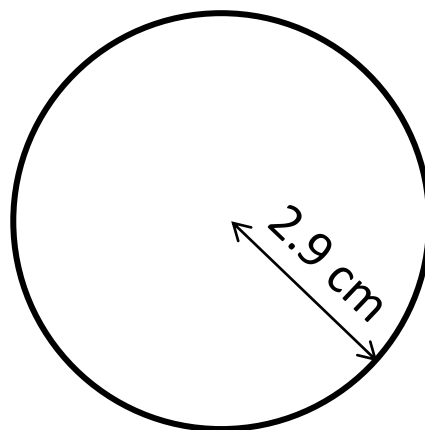
9)



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What is the circumference and area of the circle?



Radius of the circle: 2.9 cm

Diameter of the circle: $2 \times 2.9 = 5.8$ cm

$$\begin{aligned} \text{Circumference} &= \pi \times \text{Diameter} \\ &= \pi \times 5.8 \\ &= 18.22 \text{ cm to 2 decimal places} \end{aligned}$$

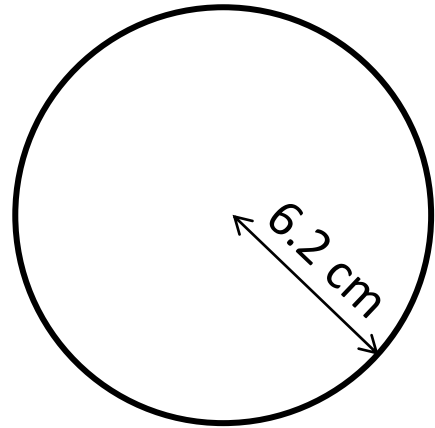
$$\begin{aligned} \text{Area} &= \pi \times \text{Radius}^2 \\ &= \pi \times 2.9^2 \\ &= 26.42 \text{ cm}^2 \text{ to 2 decimal places} \end{aligned}$$



Exercise 1



What is the circumference and area of the circle?

A large grid of blue lines on a white background, intended for students to show their calculations and work.

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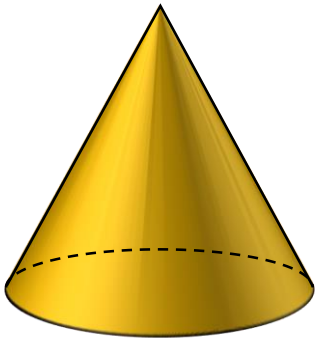


Quiz 2

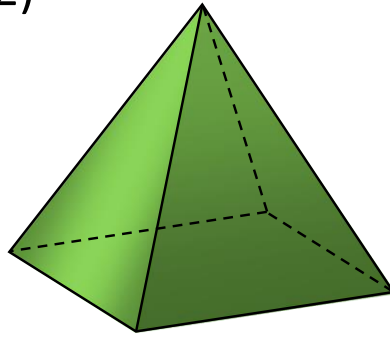


What are the names of the following solids?

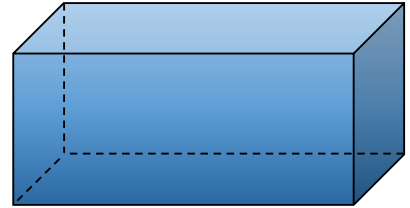
1)



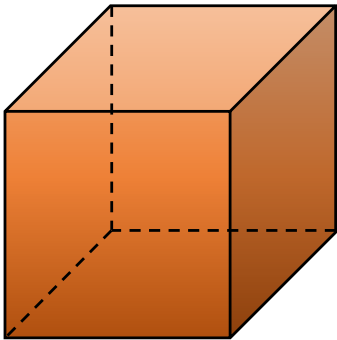
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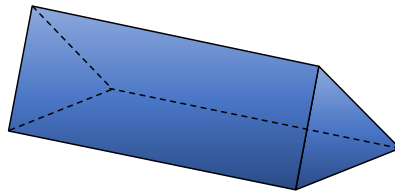
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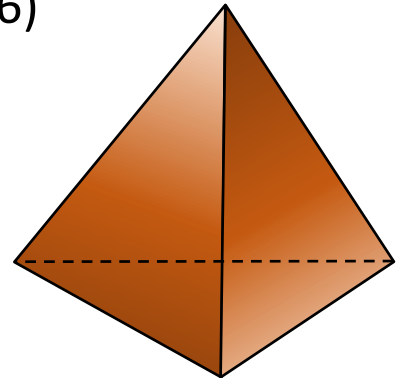
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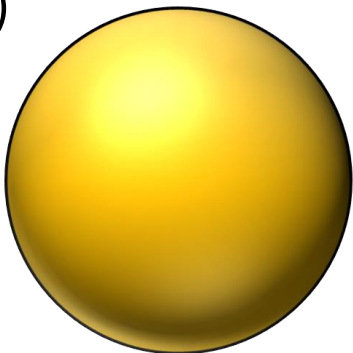
5)



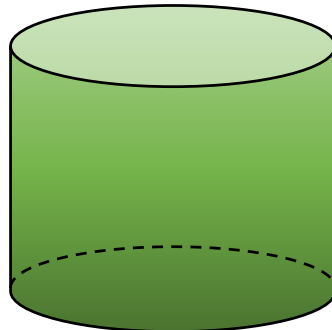
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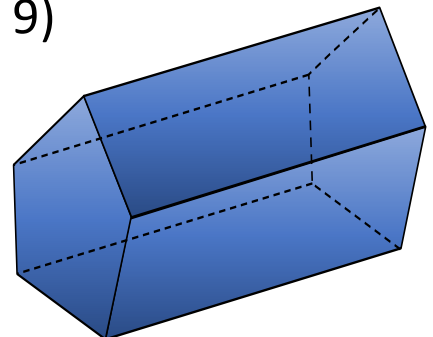
7)



8)



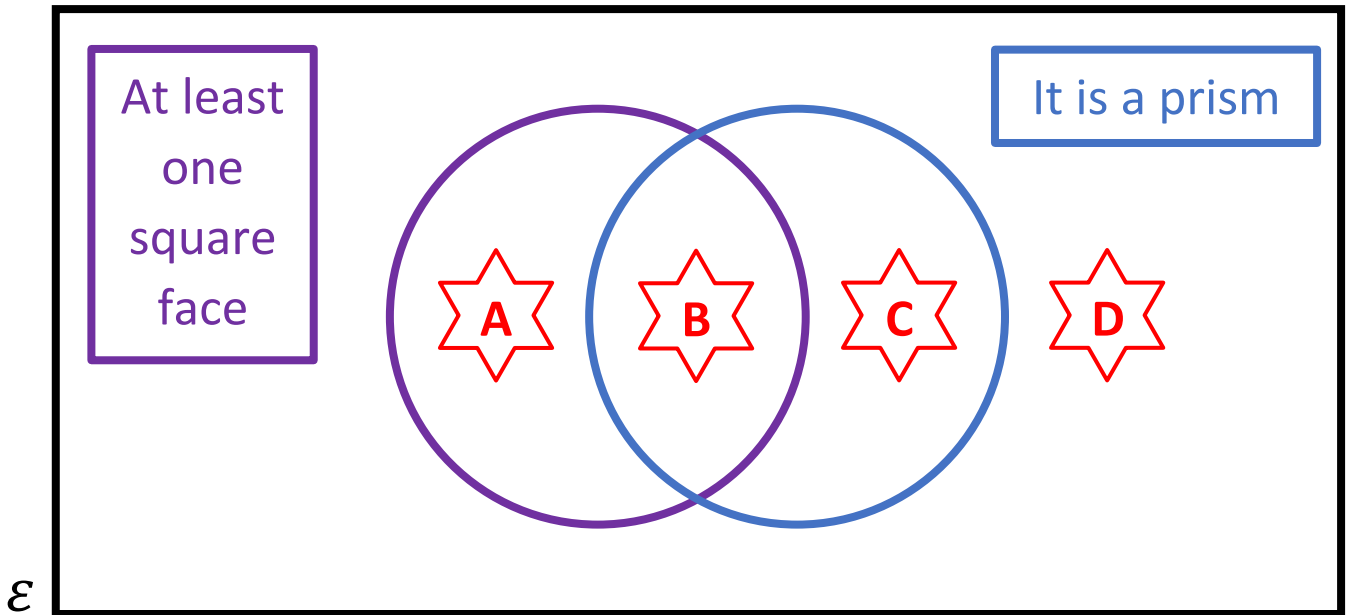
9)



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Venn Diagram Challenge 1



Think of a solid that could fit into each region.
 If you think a region is impossible to fill, explain why!











Example 2



Solve the equation $x^2 + 3x - 28 = 0$

$$x^2 + 3x - 28 = 0$$

$$(x + 7)(x - 4) = 0$$

Factorising: $7 \times -4 = -28$,
 $7 + -4 = 3$

Either $x + 7 = 0$ or $x - 4 = 0$

$$\underline{x = -7}$$

$$\underline{x = 4}$$



Quiz 3



1) $\sqrt{64}$

2) 6×-4

3) Simplify
 $4x + 5y - 2x + y$

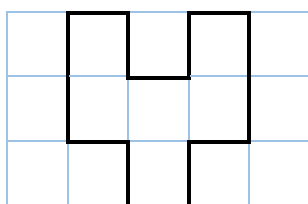
4) Draw a kite.

5) The mode of
4, 7, 2, 6, 7, 3, 2, 5

6) What is the probability of obtaining a prime number when rolling a normal fair die?

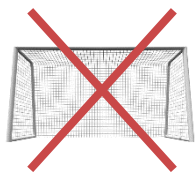
7) Write down all the factors of 22.

8) Does this net fold to make a cube?

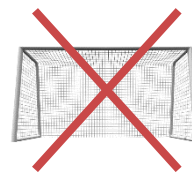


9) Evaluate 2^4

___ out of 9



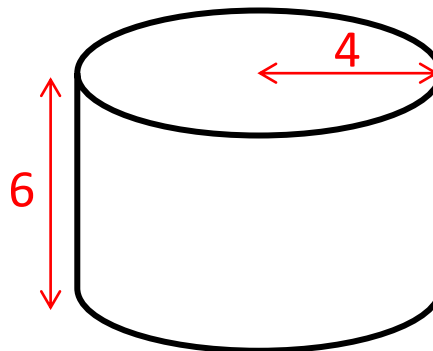
The Cylinder



The diagram shows a cylinder.

The measurements are given in centimetres.

What can you find from this information?





Example 3



Make x the subject of the formula $y = 4x - 7$.

$$y = 4x - 7$$

$$4x - 7 = y \quad [\text{swap sides}]$$

$$4x = y + 7 \quad [\text{add } 7]$$

$$x = \frac{y + 7}{4} \quad [\text{divide by } 4]$$

x is the subject of the formula as only x appears on the left hand side of the formula



Quiz 4



What is the formula?

1) Area of a rectangle =

2) Circumference of a circle =

3) Volume of a cuboid =

4) Area of a triangle =

5) Area of a circle =

6) Volume of a prism =

7) Area of a parallelogram =

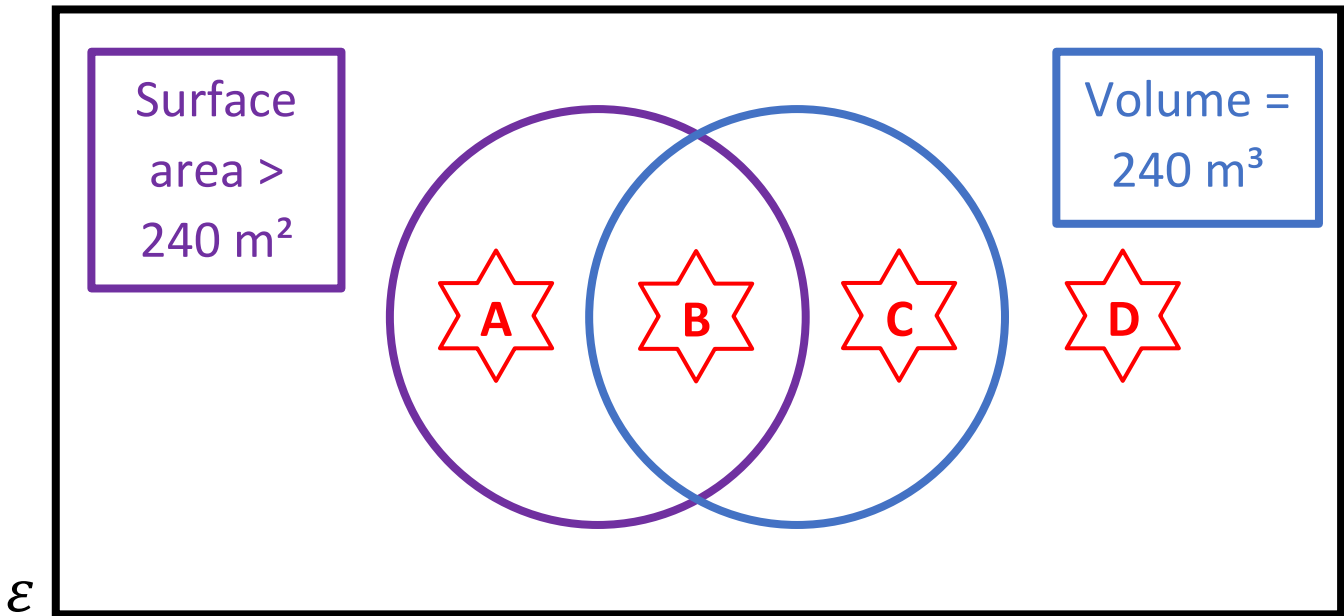
8) Area of a trapezium =

9) Volume of a cylinder =

___ out of 9



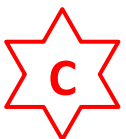
Venn Diagram Challenge 2



Write down the dimensions of a cuboid that could fit into each region. If you think a region is impossible to fill, explain why!











Example 4



Solve the following simultaneous equations.

$$3x + 7y = 46$$

$$2x + 6y = 36$$

$$\begin{array}{r}
 3x + 7y = 46 \quad \boxed{\times 2} \rightarrow \\
 2x + 6y = 36 \quad \boxed{\times 3} \rightarrow - \\
 \hline
 6x + 14y = 92 \\
 6x + 18y = 108 \\
 \hline
 -4y = -16
 \end{array}$$

$$y = \frac{-16}{-4}$$

$$\underline{\underline{y = 4}}$$

METHOD A

$$\begin{array}{r}
 3x + 7y = 46 \quad \boxed{\times 6} \rightarrow \\
 2x + 6y = 36 \quad \boxed{\times 7} \rightarrow - \\
 \hline
 18x + 42y = 276 \\
 14x + 42y = 252 \\
 \hline
 4x = 24
 \end{array}$$

METHOD B

Substitute $y = 4$ into

$$2x + 6y = 36$$

$$2x + 24 = 36$$

$$2x = 12$$

$$\underline{\underline{x = 6}}$$



Exercise 4



Solve the following simultaneous equations.

$$4x + 3y = 49$$

$$2x + 4y = 32$$

A large grid of blue lines on a white background, enclosed in a dashed black border, intended for students to show their work.

___ out of 4



Quiz 5



1) 2 hours =
_____ minutes

2) May =
_____ days

3) 1 Century =
_____ years

4) 8:34pm in the
24-hour clock =

5) 200 minutes =
_____ hours
_____ minutes

6) 3 hours before
1:30am =

7) 1 Fortnight =
_____ days

8) November =
_____ days

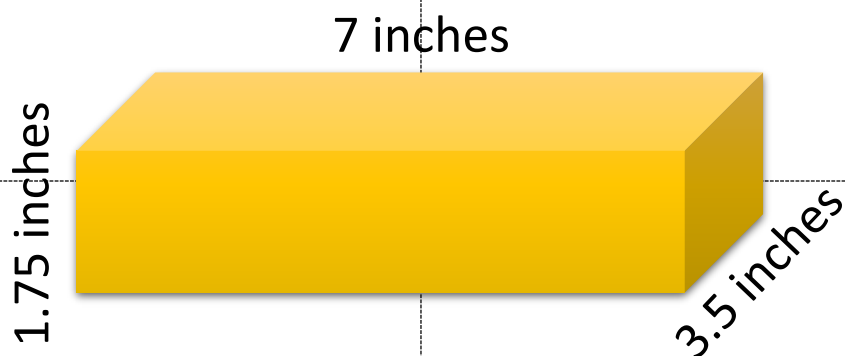
9) 2 hours
50 minutes +
1 hour 30 minutes
= _____ hours
_____ minutes

_____ out of 9



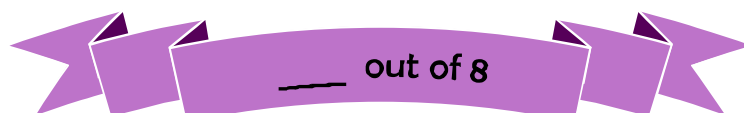
1) Calculate the volume of the gold bar.

2) Calculate the surface area of the gold bar.



3) The value of gold is £12,000 per cubic inch. What is the value of the gold bar above?

4) Calculate the length of the diagonal of the front of the gold bar.



Evaluating the Workbook



Notes