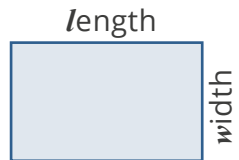


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Area of a Rectangle



$$\text{length} \times \text{width} = lw$$

Question 1

Find the area of a rectangle of length 4cm and width 6cm.

Question 2

A rectangle has area of 20.74cm^2 and width of 6.1cm. Find the length.

Question 3

A rectangular field is 42.7m wide and 128.5m long. It costs £2.50 per square metre to plant seeds. Find the cost to plant seeds in the entire field.

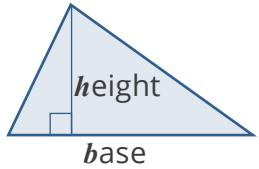
Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

Area of a Triangle



$$\frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2}bh$$

Question 1

Find the area of a triangle with base 25mm and height 3.7cm.

Question 2

The area of a triangle with base 8.2cm is 11.89cm^2 . Find the triangle's height.

Question 3

A logo is made of two right-angled triangles. The base of the larger triangle is twice that of the smaller triangle and they both have a height of 2.5cm. Given the larger triangle has an area of 25cm^2 , find the area of the smaller triangle.

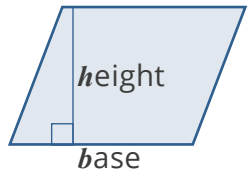
Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

Area of a Parallelogram



$$\text{base} \times \text{height} = bh$$

Question 1

A parallelogram has base 8.3cm and height 3.5cm. Find the area.

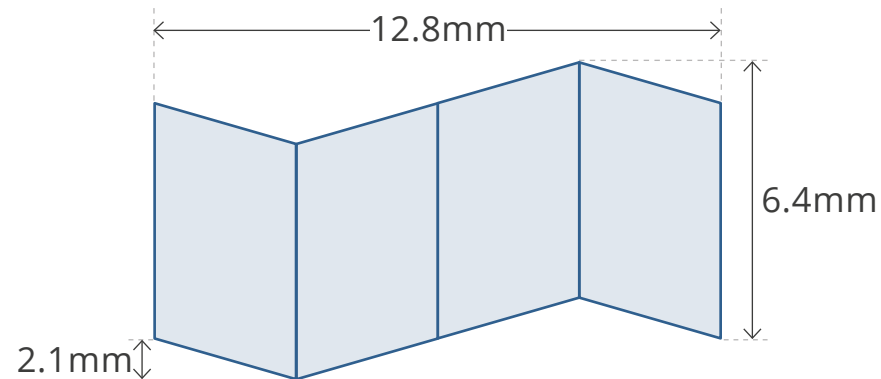
Question 2

A parallelogram of height 5.6cm has an area of 48.72cm^2 .

Find the height of the parallelogram.

Question 3

The logo below is made from 4 congruent parallelograms. Find its area.



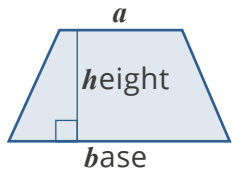
Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

Area of a Trapezium



$$\frac{1}{2} \times (a + b) \times \text{height} = \frac{1}{2}(a + b)h$$

Question 1 Answer

Question 2 Answer

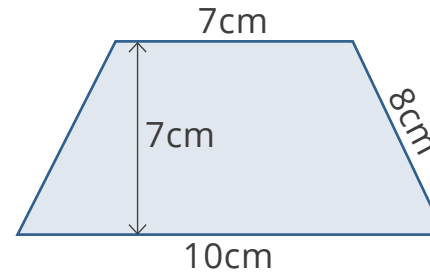
Question 3 Answer

Question 1

A trapezium has a height of 4cm and parallel sides with lengths 3.2cm and 4.6cm. Find the area of a trapezium.

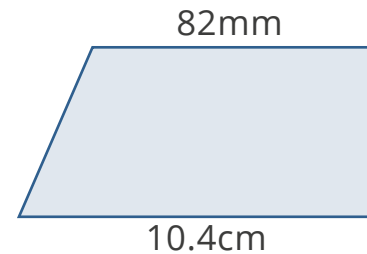
Question 2

Find the area of the trapezium below.



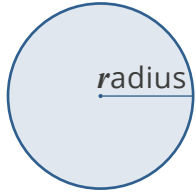
Question 3

The trapezium below has an area of 49.29cm^2 . Find the height of the trapezium.



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Area of a Circle



$$\pi \times \text{radius} \times \text{radius} = \pi r^2$$

Question 1

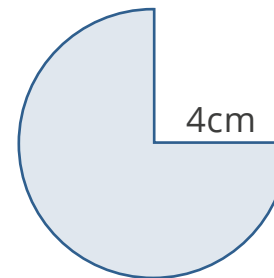
Find the area of a circle with radius 3.2mm. Give your answer correct to 1 decimal place.

Question 2

Find the area of a circle with diameter 10.8m. Give your answer correct to 1 decimal place.

Question 3

The shape below is made up of three quarters of a circle. Find the area of the shape, giving your answer in terms of π .



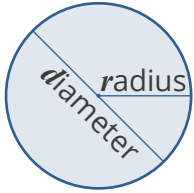
Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

Circumference of a Circle



$$2 \times \pi \times \text{radius} = 2\pi r$$

$$\pi \times \text{diameter} = \pi d$$

Question 1

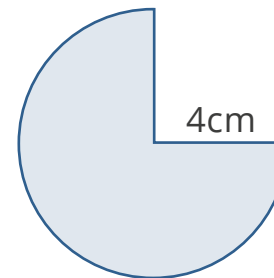
Find the circumference of a circle with diameter 11.8mm. Give your answer correct to 1 decimal place.

Question 2

Find the circumference of a circle with radius 6.5cm. Give your answer in terms of π .

Question 3

The shape below is made up of three quarters of a circle. Find the perimeter of the shape, giving your answer correct to 1 decimal place.



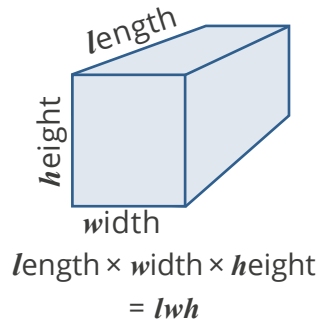
Question 1 Answer

Question 2 Answer

Question 3 Answer

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Volume of a Cuboid

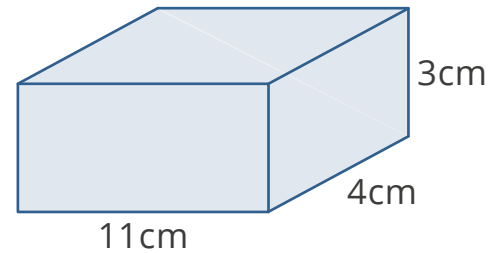


Question 1

Find the volume of a cube with side lengths of 3cm.

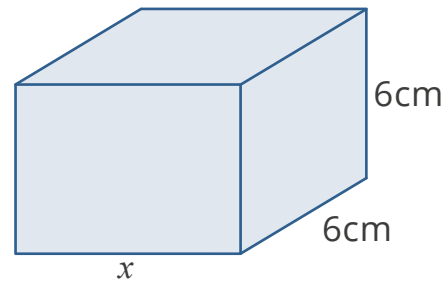
Question 2

Find the volume of the cuboid below.



Question 3

The volume of the cuboid below is 432cm^2 . Find the value of x .



Question 1 Answer

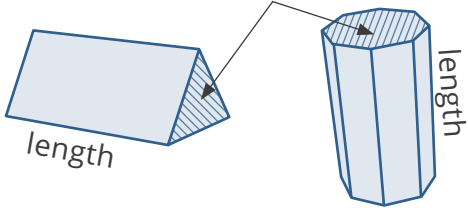
Question 2 Answer

Question 3 Answer

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Volume of a Prism

area of cross section



area of cross section \times length

Question 1 Answer

Question 2 Answer

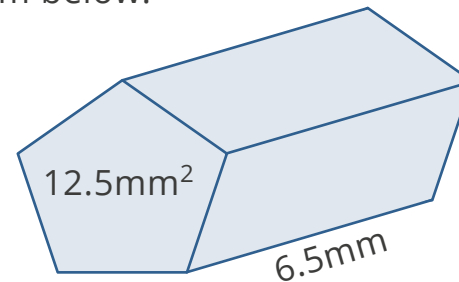
Question 3 Answer

Question 1

A prism is 15cm long and has a cross section with area 24.1cm^2 . Find the volume of the prism.

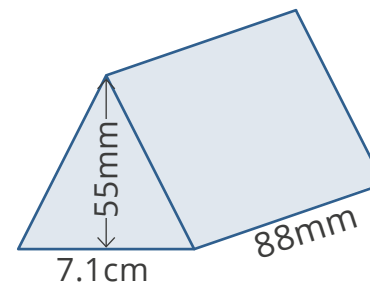
Question 2

Find the volume of the prism below.



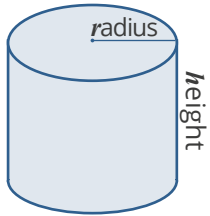
Question 3

Find the volume of the prism below. Give your answer in mm^3 .



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Volume of a Cylinder



$$\pi \times \text{radius} \times \text{radius} \times \text{height} = \pi r^2 h$$

Question 1

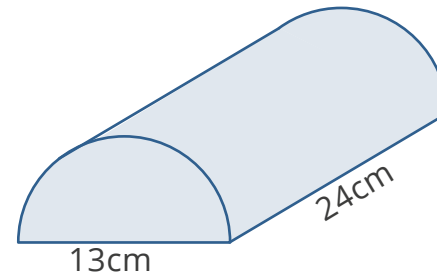
Find the volume of a cylinder with height 11cm and radius 3cm. Give your answer in terms of π .

Question 2

A cylinder has volume of 37.3cm^3 and radius of 2.5cm. Find the height of the cylinder. Give your answer correct to 1 decimal place.

Question 3

Find the volume of the solid below. Give your answer in terms of π .



Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

Compound Interest

P Principle amount
interest *r* rate

n number of times
the interest is
compounded

Value of Investment

$$= P \left(1 + \frac{r}{100} \right)^n$$

Question 1

Davi invests £250 in a bank account and gets 1% compound interest per annum. Find the value of the investment after 5 years.

Question 2

Lucia borrows £1000 at 8.5% compound interest per annum. Find the amount Lucia owes after 2 years.

Question 3

George buys a car; the value of the car decreases by 6% each year. Find the percentage drop in value after 10 years. Give your answer to one decimal place.

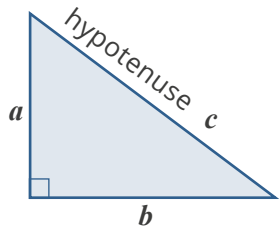
Question 1 Answer

Question 2 Answer

Question 3 Answer

GCSE Foundation **Interactive Formula Mat**

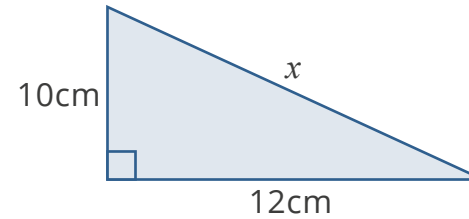
Pythagoras' Theorem



$$a^2 + b^2 = c^2$$

Question 1

Find the value of x . Give your answer to one decimal place.

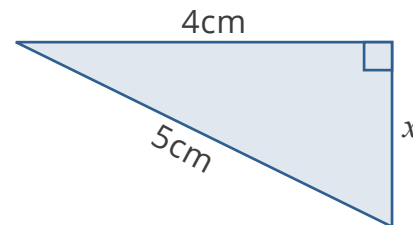


Question 2

Find the length of the diagonal of a square with sides of 5cm. Give your answer correct to 2 decimal places.

Question 3

Find the value of x .



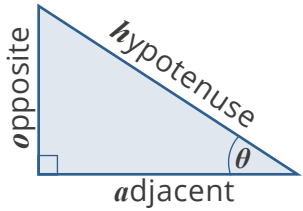
Question 1 Answer

Question 2 Answer

Question 3 Answer

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Trigonometry Formulae



$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$$

$$\sin \theta = \frac{o}{h}, \cos \theta = \frac{a}{h}, \tan \theta = \frac{o}{a}$$

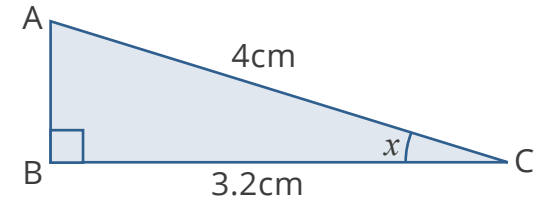
Question 1 Answer

Question 2 Answer

Question 3 Answer

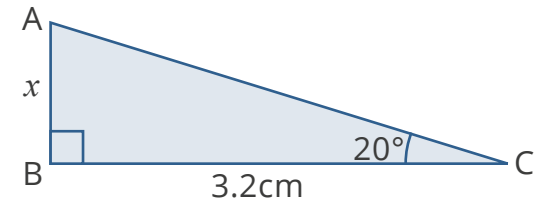
Question 1

Find the value of x . Give your answer correct to 1 decimal place.



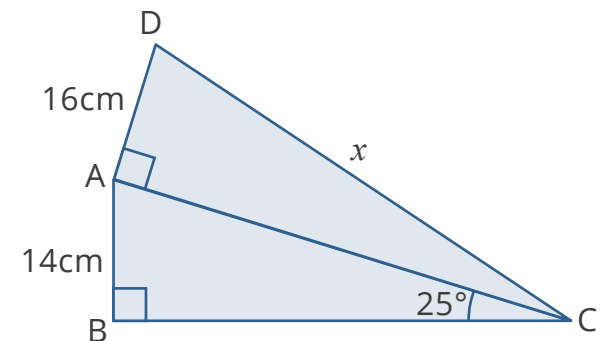
Question 2

Find the value of x . Give your answer correct to 1 decimal place.



Question 3

Find the value of x , giving your answer correct to 1 decimal place.



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Values of Trigonometric Functions

	0°	30°	45°	60°	90°
$\sin\theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
$\cos\theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
$\tan\theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	not defined

Question 1

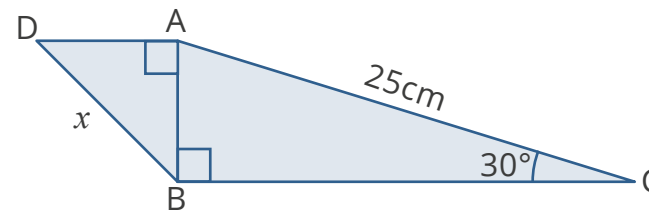
Give the value of $\tan(60^\circ)$.

Question 2

If $\sin x = \cos x$, what is the value of x ?

Question 3

In the diagram below, ABD is an isosceles right-angled triangle. Find the value of x , correct to 1 decimal place.

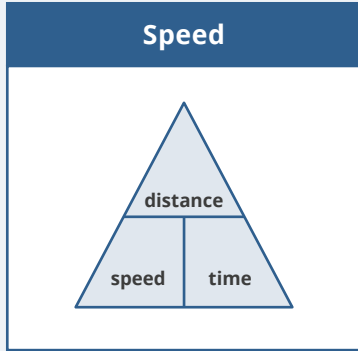


Question 1 Answer

Question 2 Answer

Question 3 Answer

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Question 1

A car travels 40 miles from Sheffield to Manchester. The journey takes 1 hours 30 minutes. Find the car's average speed in mph. Give your answer correct to 1 decimal place.

Question 2

A plane flies at an average speed of 317mph from Newcastle to New York. The flight takes 10 hours 30 minutes. Find, to the nearest mile, the distance between Newcastle and New York.

Question 3

A bird travels at 12m/s. Find the time, in seconds, it takes to travel 1km. Give your answer to 1 decimal place.

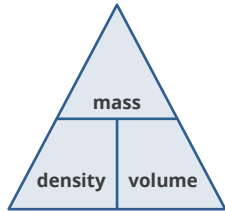
Question 1 Answer

Question 2 Answer

Question 3 Answer

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Density



Question 1

An oak table has a volume of 4630cm^3 and mass 3150g . Find the density of the table, correct to 2 decimal places.

Question 2

Oil has a density of 0.9g/cm^3 . Find the mass of 250cm^3 of oil.

Question 3

A steel bar has a density of 8.05g/cm^3 and mass 1.4kg . Find the volume of the bar, giving your answer correct to 1 decimal place.

Question 1 Answer

Question 2 Answer

Question 3 Answer

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Pressure



Question 1

Find the pressure when a force of 5N is exerted over an area of 2m^2 .

Question 2

A block of wood exerts a force on 12m^2 of a table. The pressure on the table is 4.1N/m^2 . Find the force exerted by the block.

Question 3

A force of 9.8N is acting on an object. The pressure on the object is 2.8N/m^2 . Find the area that the force is acting upon.

Question 1 Answer

Question 2 Answer

Question 3 Answer