



GCSE Higher Maths Formulae: Fill in the Blanks Essential

Area, Surface Area and Circles

Fill in the blanks so each formula is correct.

Area of a Rectangle	$\frac{\square}{\square} \times \text{width}$
Area of a Triangle	$\frac{\square}{\square} \times \text{base} \times \square$
Area of a Parallelogram	$\square \times \square$
Area of a Trapezium	$\frac{\square}{\square} \times (\square + \square) \times \square$
Area of a Circle	$\square \times (\text{radius})^2$
Area of any triangle	$\frac{\square}{\square} \times ab \times \text{S}\square$
Circumference of a Circle	$\square \times d\square$
Surface Area of a Sphere	$\square \times \square \times (\text{radius})^2$
Curved Surface Area of a Cone	$\square \times \square \times (\text{sloping})\square$

Volume

Fill in the table with the correct formulae.

Volume of a Cuboid	$\square \times \square \times \square$
Volume of a Prism	$\square \times l\square$
Volume of a Cylinder	$\square \times (\text{radius})^2 \times h\square$
Volume of a Sphere	$\frac{\square}{\square} \times \square (\text{radius})^3$
Volume of a Cone	$\frac{\square}{\square} \times \square \times (\text{radius})^2 \times (\text{sloping})\square$
Volume of a Rectangular-Based Pyramid	$\frac{\square}{\square} \times \square \times \square \times \square$



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Trigonometry and Pythagoras' Theorem

Fill in the table with the correct formulae.

$\sin A$	$\frac{\text{opposite}}{\text{hypotenuse}}$
$\cos A$	$\frac{\text{adjacent}}{\text{hypotenuse}}$
$\tan A$	$\frac{\text{opposite}}{\text{adjacent}}$
Pythagoras' Theorem	$a^2 + b^2 = c^2$

Values of Trigonometric Functions

Complete the table with the value of each trigonometric function.

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

Triangles

Fill in the table with the correct formulae.

Sine Rule	$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
Cosine Rule	$a^2 = b^2 + c^2 - 2bc \cos A$

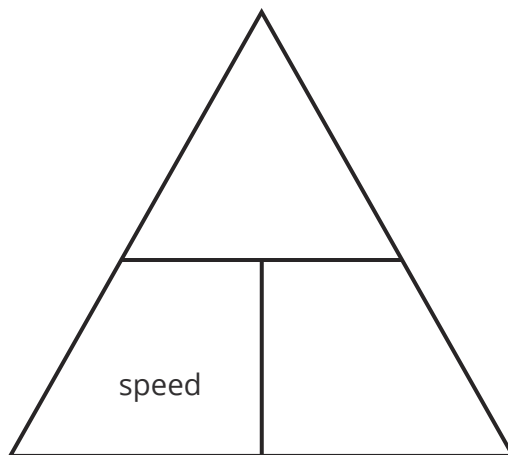


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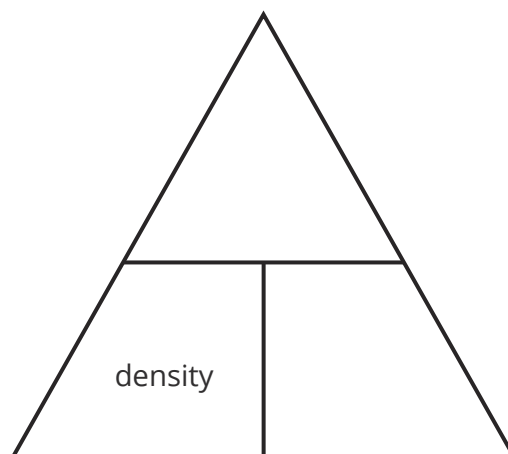
Compound Measures

Fill in the blanks so the formula triangles are correct.

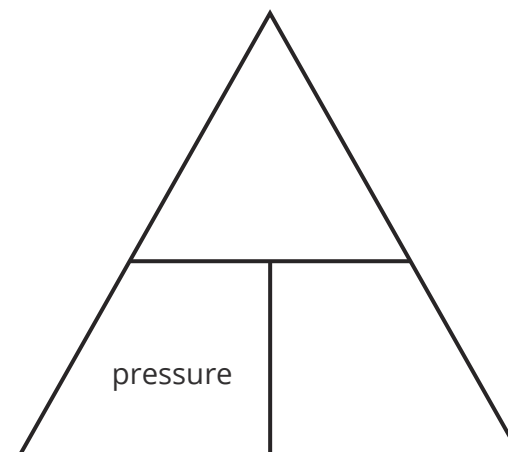
Speed



Density



Pressure





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Quadratic Formula

Fill in the table with the correct formula.

Quadratic Formula	$x = \frac{-b \pm \sqrt{\boxed{}^2 - \boxed{}}}{\boxed{}}$
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Essential **Answers**

Area, Surface Area and Circles

Fill in the blanks so each formula is correct.

Area of a Rectangle	length × width
Area of a Triangle	$\frac{1}{2} \times \text{base} \times \text{height}$
Area of a Parallelogram	base × height
Area of a Trapezium	$\frac{1}{2} \times (a + b) \times \text{height}$
Area of a Circle	$\pi \times (\text{radius})^2$
Area of any triangle	$\frac{1}{2} \times ab \times \sin C$
Circumference of a Circle	$\pi \times \text{diameter}$
Surface Area of a Sphere	$4 \times \pi \times (\text{radius})^2$
Curved Surface Area of a Cone	$\pi \times \text{radius} \times (\text{sloping}) \text{ length}$

Volume

Fill in the table with the correct formulae.

Volume of a Cuboid	length × width × height
Volume of a Prism	area of cross section × length
Volume of a Cylinder	$\pi \times (\text{radius})^2 \times \text{height}$
Volume of a Sphere	$\frac{4}{3} \times \pi \times (\text{radius})^3$
Volume of a Cone	$\frac{1}{3} \times \pi \times (\text{radius})^2 \times \text{height}$
Volume of a Rectangular-Based Pyramid	$\frac{1}{3} \times \text{length} \times \text{width} \times \text{height}$



GCSE Higher Maths Formulae: Fill in the Blanks

Essential **Answers**

Trigonometry and Pythagoras' Theorem

Fill in the table with the correct formulae.

$\sin A$	opposite $\div$ hypotenuse
$\cos A$	adjacent $\div$ hypotenuse
$\tan A$	opposite $\div$ adjacent
Pythagoras' Theorem	$a^2 + b^2 = c^2$

Values of Trigonometric Functions

Complete the table with the value of each trigonometric function.

	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

Triangles

Fill in the table with the correct formulae.

Sine Rule	$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
Cosine Rule	$a^2 = b^2 + c^2 - 2bc \cos A$



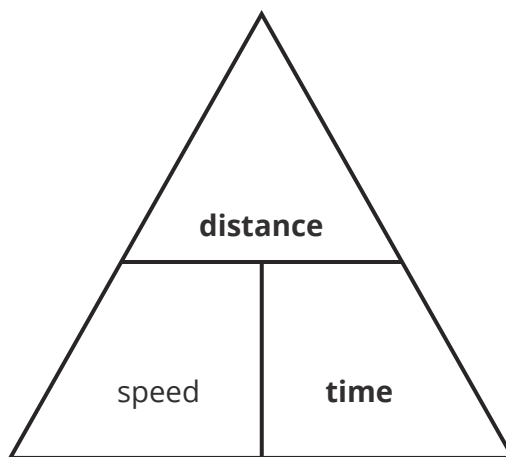
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Essential **Answers**

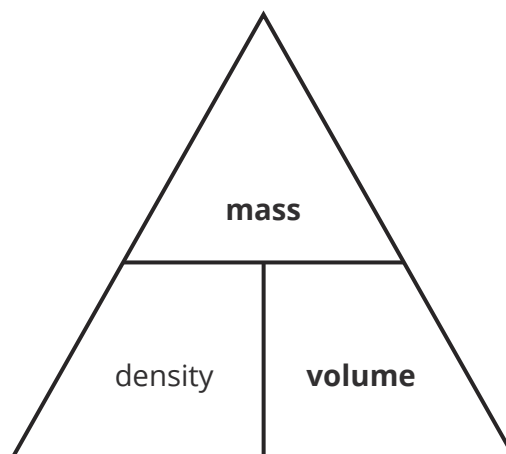
Compound Measures

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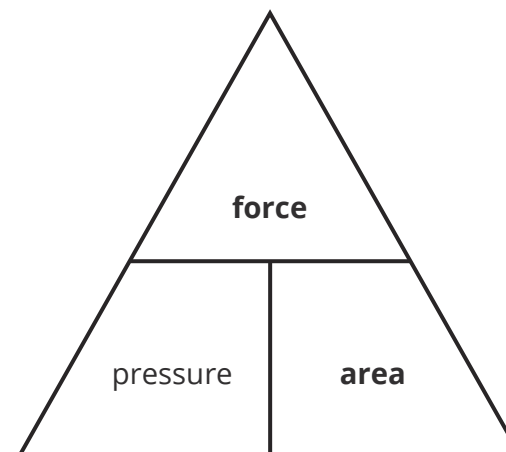
Speed



Density



Pressure





GCSE Higher Maths Formulae: Fill in the Blanks

Essential **Answers**

Quadratic Formula

Fill in the table with the correct formula.

Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
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