

Name : _____

Metric units: S2

Rearranging Formulae

- 1) The area A of a trapezoid is given by the formula $A = \frac{1}{2}(a + b)h$, where a and b are the length of the parallel bases and h is the height. Rearrange the formula to make height(h) the subject.

$$h = \underline{\hspace{2cm}}$$

If the area of a trapezoid is 76 m^2 and the length of the parallel bases are 12 m and 7 m , determine the height of the trapezoid.

$$h = \underline{\hspace{2cm}}$$

- 2) The density ρ of a substance is given by the formula $\rho = \frac{m}{V}$, where m is the mass and V is the volume of the substance. Rearrange the formula to make volume(V) the subject.

$$V = \underline{\hspace{2cm}}$$

What is the volume of a substance with a density of 88 kg/m^3 and a mass of 7728 kg ?

$$V = \underline{\hspace{2cm}}$$

- 3) The formula to find the height h of a cone is $V = \frac{1}{3}\pi r^2 h$, where V is the volume of the cone and r is the radius of the cone. Rearrange the formula to make height(h) the subject.

$$h = \underline{\hspace{2cm}}$$

Find the height of a cone with a volume of 1500 cm^3 and a radius of 10 cm .

$$h = \underline{\hspace{2cm}}$$

- 4) The volume V of a sphere is $V = \frac{4}{3}\pi r^3$, where r is the radius of the sphere. Rearrange the formula to make radius(r) the subject.

$$r = \underline{\hspace{2cm}}$$

The volume of a sphere is $972\pi \text{ mm}^3$. Find the radius of the sphere.

$$r = \underline{\hspace{2cm}}$$

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Name : _____

Answer key

Metric units: S2

Rearranging Formulae

- 1) The area A of a trapezoid is given by the formula $A = \frac{1}{2}(a + b)h$, where a and b are the length of the parallel bases and h is the height. Rearrange the formula to make height(h) the subject.

$$h = \frac{2A}{a + b}$$

If the area of a trapezoid is 76 m^2 and the length of the parallel bases are 12 m and 7 m , determine the height of the trapezoid.

$$h = 8 \text{ m}$$

- 2) The density ρ of a substance is given by the formula $\rho = \frac{m}{V}$, where m is the mass and V is the volume of the substance. Rearrange the formula to make volume(V) the subject.

$$V = \frac{m}{\rho}$$

What is the volume of a substance with a mass of 88 kg and a density of 88 kg/m^3 ?

$$V = 1 \text{ m}^3$$

- 3) The formula to find the height h of a cone is given by $V = \frac{1}{3}\pi r^2 h$, where V is the volume, r is the radius of the cone and h is the height. Rearrange the formula to make height(h) the subject.

$$h = \frac{3V}{\pi r^2}$$

Find the height of a cone with a volume of 100 cm^3 and a radius of 5 cm .

$$h = 3.8 \text{ cm}$$

- 4) The volume V of a sphere is $V = \frac{4}{3}\pi r^3$, where r is the radius of the sphere. Rearrange the formula to make radius(r) the subject.

$$r = \sqrt[3]{\frac{3V}{4\pi}}$$

The volume of a sphere is $972\pi \text{ mm}^3$. Find the radius of the sphere.

$$r = 9 \text{ mm}$$

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