

Name : \_\_\_\_\_

## Rearranging Formulae

Customary units: S2

- 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 square feet and the length of the parallel bases are 12 feet and 7 feet, determine the height of the trapezoid.

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

- 2) The density  $\rho$  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 mass of 88 kg and a density of 88 kg/m<sup>3</sup>?

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

- 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.

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

Find the height of a cone with a volume of 972 $\pi$  cubic inches and a radius of 6 inches.

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

- 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 $\pi$  cubic inches. Find the radius of the sphere.

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

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## Answer key

### Rearranging Formulae

Customary units: S2

- 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 square feet and the length of the parallel bases are 12 feet and 7 feet, determine the height of the trapezoid.

$$h = \underline{\text{8 feet}}$$

- 2) The density  $\rho$  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<sup>3</sup>?

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

- 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 cubic inches and a radius of 2 inches.

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

- 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  $972\pi$  cubic inches. Find the radius of the sphere.

$$r = \underline{\text{9 inches}}$$

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