

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

## Rearranging Formulae

Customary units: S1

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

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

The volume and height of a cone are  $84\pi$  cubic feet and 7 feet respectively. Find the radius of the cone.

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

- 2) The formula to find distance  $d$  is  $d = vt$ , where  $v$  is the velocity and  $t$  is the time taken to cover the distance.

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

Frank drove his car for 2 hours at a velocity of 40 miles per hour. Find the distance covered by Frank.

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

- 3) The perimeter  $P$  of a rectangle is given by  $P = 2(l + w)$ , where  $l$  and  $w$  are the length and width of the rectangle.

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

Find the length of a rectangle if the perimeter is 30 feet and the width is 8 feet.

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

- 4) The force  $F$  of an object is calculated by multiplying its mass ' $m$ ' with acceleration ' $a$ '. Rearrange the formula  $F = ma$  to make mass( $m$ ) the subject.

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

Determine the mass of an object, if it requires a force of  $6,000 \text{ kg}\cdot\text{m/s}^2$  to accelerate at the rate of  $2 \text{ m/s}^2$ .

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

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total distance and  $t$  is the time taken. Rearrange the formula.

Find the distance covered by Frank.

Find the length ( $l$ ) of the rectangle.

8 feet.

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## Answer key

### Rearranging Formulae

Customary units: S1

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

$$r = \frac{\sqrt{3V}}{\pi h}$$

The volume and height of a cone are  $84\pi$  cubic feet and 7 feet respectively. Find the radius of the cone.

$$r = \underline{\text{6 feet}}$$

- 2) The formula to find distance  $d$  is  $d = vt$ , where  $v$  is the velocity and  $t$  is the time taken to cover the distance. Rearrange the formula, to make velocity( $v$ ) the subject.

$$d = vt$$

Frank drove his car for 2 hours at a velocity of 30 miles per hour. Find the distance covered by Frank.

$$d = vt$$

- 3) The perimeter  $P$  of a rectangle is calculated using the formula  $P = 2(l + w)$ , where  $l$  and  $w$  are the length and width of the rectangle. Rearrange the formula, to make length( $l$ ) the subject.

$$l = \frac{P}{2} - w$$

Find the length of a rectangle with a perimeter of 20 feet and a width of 4 feet.

$$l = \frac{P}{2} - w$$

- 4) The force  $F$  of an object is calculated by multiplying its mass ' $m$ ' with acceleration ' $a$ '. Rearrange the formula  $F = ma$  to make mass( $m$ ) the subject.

$$m = \frac{F}{a}$$

Determine the mass of an object, if it requires a force of  $6,000 \text{ kg}\cdot\text{m/s}^2$  to accelerate at the rate of  $2 \text{ m/s}^2$ .

$$m = \underline{\text{3,000 kg}}$$

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