

Number - Proportion Direct

Q1

y is directly proportional to x .

When $x = 500$, $y = 10$

(a) Find a formula for y in terms of x .

$$y = \dots\dots\dots (3)$$

(b) Calculate the value of y when $x = 350$

$$y = \dots\dots\dots (1)$$

Q2

M is directly proportional to L^3 .

When $L = 2$, $M = 160$

Find the value of M when $L = 3$

.....

(Total 4 marks)

Number - Proportion Direct

Q1

y is directly proportional to x .

$$\text{Let } y = kx$$

When $x = 500, y = 10$

Substitute $x = 500, y = 10$ to find k

(a) Find a formula for y in terms of x .

$$10 = k \times 500$$

$$\frac{10}{500} = k$$

$$\frac{1}{50} = k$$

Therefore $y = \frac{1}{50}x$ or $\frac{x}{50}$

$$y = \frac{x}{50} \quad (3)$$

(b) Calculate the value of y when $x = 350$

When $x = 350$

$$y = \frac{350}{50} = 7$$

$$y = 7 \quad (1)$$

Q2

M is directly proportional to L^3 .

$$\text{Let } M = kL^3$$

When $L = 2, M = 160$

Substitute $L = 2, M = 160$ to find k

$$160 = k \times 2^3$$

$$160 = 8k$$

$$\frac{160}{8} = k$$

$$20 = k$$

Therefore $M = 20L^3$

When $L = 3$

$$M = 20 \times 3^3 = 540$$

$$M = 540$$

(Total 4 marks)