

## FORCE AND PRESSURE

### Problem 1:

The mass of a body of weight 50 N is  $x$  kg. Find the value of  $x$ .

Sol.

$$F = 10 \text{ N} = W$$

$$m = x \text{ kg}$$

$$g = 10 \text{ m/s}^2$$

Using  $F = mg$

$$F = W$$

$$50 = x \times 10$$

$$\therefore x = \frac{50}{10}$$

$$x = 5 \text{ kg}$$

### Problem 2:

The mass of a body is 60kg. If a force of  $180/n$  is applied on a body what is its acceleration?

Sol.

$$F = 180 \text{ N}$$

$$m = 60 \text{ kg}$$

$$a = ?$$

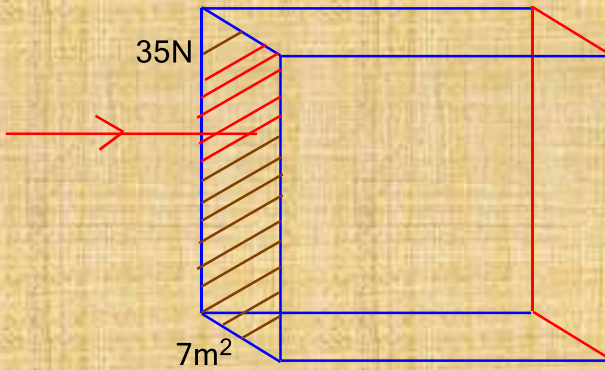
Using  $F = ma$

$$180 = 60 \times a$$

$$a = 180/60 = 3 \text{ m/s}^2$$

### Problem 3:

A force of 35 N acting on a block of cross section  $7\text{m}^2$ . Find the pressure acting on it.



$$F = 35 \text{ N}$$

$$A = 7\text{m}^2$$

$$P = F / A = 35/7 = 5 \text{ N/m}^2 \text{ (or) Pa}$$

**6** Brainbox  
learn easy