



- 1 (i) ∴ as no. of workers increases, time taken to complete work decreases.
- (iv) ∴ as speed of vehicle increases time of journey decreases.
- (v) ∴ as population increases, area of land per person decreases.

2.

number of winners $x_i$	1	2	4	5	8	10	20
Prize for each winner $y_i$ (in Rs)	100000	50000	$y_3$	$y_4$	$y_5$	$y_6$	$y_7$

$$x_1 y_1 = 1 \times 100000 = 100000$$

$$x_2 y_2 = 2 \times 50000 = 100000$$

$$\therefore x_1 y_1 = x_2 y_2$$

∴ x and y vary inversely

$$x_1 y_1 = x_3 y_3$$

$$100000 = \frac{25000}{4} \times y_3$$

$$\Rightarrow y_3 = 25000$$

$$x_1 y_1 = x_4 y_4$$

$$100000 = \frac{20000}{5} \times y_4$$

$$x_1 y_1 = x_5 y_5$$

$$100000 = \frac{12500}{8} \times y_5$$

$$\Rightarrow y_5 = 12500$$

$$x_1 y_1 = x_6 y_6$$

$$100000 = \frac{10}{1} \times y_6$$

$$\Rightarrow y_6 = 10000$$

$$x_1 y_1 = x_7 y_7$$

$$100000 = \frac{5000}{20} \times y_7$$

$$\Rightarrow y_7 = 5000$$