

6 (vi)

$$1620 = 2^2 \times 3^2 \times 3^2 \times 5$$

Smallest no. by which given no. should be divided to get a perfect square

$$= 5$$

$$\begin{aligned} \text{required perfect square} &= \frac{1620}{5} \\ &= 324 \end{aligned}$$

$$\begin{aligned} \sqrt{324} &= \sqrt{2^2 \times 3^2 \times 3^2} \\ &= 2 \times 3 \times 3 \\ &= 18 \end{aligned}$$

7

let no. of students =  $x$

Money donated by each student =  $18x$

according to condition

$$x \times x = 2401$$

$$\Rightarrow x^2 = 2401$$

$$\Rightarrow x = \sqrt{2401}$$

$$= \sqrt{7^2 \times 7^2}$$

$$= 7 \times 7$$

$$= 49$$

$$\begin{array}{r} 7 \overline{) 2401} \\ \underline{7} \phantom{3} \phantom{4} \phantom{3} \\ 7 \phantom{3} \phantom{4} \phantom{3} \\ \underline{7} \phantom{4} \phantom{9} \\ 7 \phantom{4} \phantom{9} \\ \underline{7} \phantom{9} \\ 7 \phantom{9} \end{array}$$

$\therefore$  no. of students = 49