

Do the following in your fair notebook .

2. Express the following powers of rational numbers as rational numbers :

$$(i) \left(\frac{-4}{5}\right)^3 \quad (ii) (-1)^{12}$$

3. Express each of the following rational numbers in power notation :

$$(i) -\frac{1}{125} \quad (ii) -\frac{27}{8} \quad (iii) \frac{9}{25} \times \frac{64}{25} \quad (iv) \frac{49}{64} \quad (v) 0.49$$

**SOLUTION OF THESE QUESTIONS :-**

$$\begin{aligned} 2. (i) \left(\frac{-4}{5}\right)^3 &= \left(\frac{-4}{5}\right) \times \left(\frac{-4}{5}\right) \times \left(\frac{-4}{5}\right) \\ &= \frac{(-4) \times (-4) \times (-4)}{5 \times 5 \times 5} = \frac{-64}{125} \end{aligned}$$

$$\begin{aligned} (ii) (-1)^{12} &= (-1) \times (-1) \times (-1) \times (-1) \times (-1) \times (-1) \times (-1) \\ &\quad \times (-1) \times (-1) \times (-1) \times (-1) \times (-1) \\ &= +1 = 1 \end{aligned}$$

$$3. (i) \frac{-1}{125} = \left(\frac{-1}{5}\right) \times \left(\frac{-1}{5}\right) \times \left(\frac{-1}{5}\right) = \left(\frac{-1}{5}\right)^3$$

$$(ii) \frac{-27}{8} = \left(\frac{-3}{2}\right) \times \left(\frac{-3}{2}\right) \times \left(\frac{-3}{2}\right) = \left(\frac{-3}{2}\right)^3$$

$$\begin{aligned} (iii) \frac{9}{25} \times \frac{64}{25} &= \left(\frac{3}{5} \times \frac{3}{5}\right) \times \left(\frac{8}{5} \times \frac{8}{5}\right) \\ &= \left(\frac{3}{5}\right)^2 \times \left(\frac{8}{5}\right)^2 = \left(\frac{3 \times 8}{5 \times 5}\right)^2 = \left(\frac{24}{25}\right)^2 \end{aligned}$$

$$(iv) \frac{49}{64} = \frac{7 \times 7}{8 \times 8} = \left(\frac{7}{8}\right) \times \left(\frac{7}{8}\right) = \left(\frac{7}{8}\right)^2$$

$$(v) 0.49 = \frac{49}{100} = \left(\frac{7}{10}\right) \times \left(\frac{7}{10}\right) = \left(\frac{7}{10}\right)^2$$