



Powers Ex 2.2 Q1

**Answer :**

$$(i) \left(\frac{3}{2}\right)^{-1} \times \left(\frac{3}{2}\right)^{-1} \times \left(\frac{3}{2}\right)^{-1} \times \left(\frac{3}{2}\right)^{-1} = \left(\frac{3}{2}\right)^{-1+(-1)+(-1)+(-1)}$$

$$\{a^m \times a^n = a^{m+n}\}$$

$$= \left(\frac{3}{2}\right)^{-4}$$

$$(ii) \left(\frac{2}{5}\right)^{-2} \times \left(\frac{2}{5}\right)^{-2} \times \left(\frac{2}{5}\right)^{-2} = \left(\frac{2}{5}\right)^{-2+(-2)+(-2)}$$

$$\{a^m \times a^n = a^{m+n}\}$$

$$= \left(\frac{2}{5}\right)^{-6}$$

Powers Ex 2.2 Q2

**Answer :**

$$(i) 5^{-2} = \frac{1}{5^2} \quad \text{---> } (a^{-n} = 1/(a^n))$$
$$= \frac{1}{25}$$

$$(ii) (-3)^2 = \frac{1}{3^2} \quad \text{---> } (a^{-n} = 1/(a^n))$$
$$= \frac{1}{9}$$

$$(iii) \left(\frac{1}{3}\right)^{-4} = \frac{1}{(1/3)^4} \quad \text{---> } (a^{-n} = 1/(a^n))$$
$$= \frac{1}{1/81}$$
$$= 81$$

$$(iv) \left(\frac{-1}{2}\right)^{-1} = \left(\frac{1}{-1/2}\right) \quad \text{---> } (a^{-1} = 1/(a))$$
$$= -2$$

Powers Ex 2.2 Q3

**Answer :**

$$(i) 6^{-1} = \frac{1}{6} \quad \rightarrow (a^{-1} = 1/a)$$

$$(ii) (-7)^{-1} = \frac{1}{-7} \quad \rightarrow (a^{-1} = 1/a) \\ = -\frac{1}{7}$$

$$(iii) \left(\frac{1}{4}\right)^{-1} = \frac{1}{1/4} \quad \rightarrow (a^{-1} = 1/a) \\ = 4$$

$$(iv) (-4)^{-1} \times \left(\frac{-3}{2}\right)^{-1} = \frac{1}{-4} \times \frac{1}{-3/2} \quad \rightarrow (a^{-1} = 1/a) \\ = \frac{1}{-4} \times \frac{2}{-3} \\ = \frac{1}{6}$$

$$(v) \left(\frac{3}{5}\right)^{-1} \times \left(\frac{5}{2}\right)^{-1} = \frac{1}{3/5} \times \frac{1}{5/2} \quad \rightarrow (a^{-1} = 1/a) \\ = \frac{5}{3} \times \frac{2}{5} \\ = \frac{2}{3}$$

\*\*\*\*\* END \*\*\*\*\*