Exponents Ex 6.1 Q6

Answer :

We have

(i) $\left(\frac{3}{4}\right)^2 = \frac{3}{4} \times \frac{3}{4} = \frac{9}{16}$

(ii) $\left(\frac{-2}{3}\right)^4 = \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} = \frac{16}{81}$

(iii) $\left(\frac{-4}{5}\right)^5 = \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} = \frac{-1024}{3125}$

Exponents Ex 6.1 Q7

Answer :

We have

(i) $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$ and $5^2 = 5 \times 5 = 25$

Therefore, $32 > 25$.

Thus, $2^5 > 5^2$.

(ii) $3^4 = 3 \times 3 \times 3 \times 3 = 81$ and $4^3 = 4 \times 4 \times 4 = 64$

Therefore, $81 > 64$.

Thus, $3^4 > 4^3$.

(iii) $3^5 = 3 \times 3 \times 3 \times 3 \times 3 = 243$ and $5^3 = 5 \times 5 \times 5 = 125$

Therefore, $243 > 125$.

Thus, $3^5 > 5^3$.

Exponents Ex 6.1 Q8

Answer :

We have

(i) $(-5) \times (-5) \times (-5) = (-5)^3$

(ii) $\frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7} = \left(\frac{-5}{7}\right)^4$

(iii) $\frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} = \left(\frac{4}{3}\right)^5$

Exponents Ex 6.1 Q9

Answer :

We have

(i) $x \times x \times x \times x \times a \times a \times b \times b \times b = x^4a^2b^3$

(ii) $(-2) \times (-2) \times (-2) \times (-2) \times a \times a \times a = (-2)^4 \times a^3$

(iii) $\left(\frac{-2}{3}\right) \times \left(\frac{-2}{3}\right) \times x \times x \times x = \left(\frac{-2}{3}\right)^2 \times x^3$

Exponents Ex 6.1 Q10

Answer :

We have

(i) Prime factorisation of 512 = 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 2^9

(ii) Prime factorisation of 625 = 5 x 5 x 5 x 5 = 5^4

(iii) Prime factorisation of 729 = 3 x 3 x 3 x 3 x 3 x 3 = 3^6

********** END **********