Exponents Ex 6.3 Q1

Answer :

We have

(i) $3908.78 = 3.90878 \times 10^3$ [since the decimal point is moved 3 places to the left]

(ii) $5,00,00,000 = 5,00,00,000.00 = 5 \times 10^7$ [since the decimal point is moved 7 places to the left]

(iii) $3,18,65,00,000 = 3,18,65,00,000.00$
$= 3.1865 \times 10^9$ [since the decimal point is moved 9 places to the left]

(iv) $846 \times 10^7 = 8.46 \times 10^2 \times 10^7$ [since the decimal point is moved 2 places to the left]
$= 8.46 \times 10^9$ [since $a^m \times a^n = a^{m+n}$]

(v) $723 \times 10^9 = 7.23 \times 10^2 \times 10^9$ [since the decimal point is moved 2 places to the left]
$= 7.23 \times 10^{11}$ [since $a^m \times a^n = a^{m+n}$]

Exponents Ex 6.3 Q2

Answer :

We have

(i) $4.83 \times 10^7 = 483 \times 10^{7-2}$ [since the decimal point is moved two places to the right]
$= 483 \times 10^5 = 4,83,00,000$

(ii) $3.21 \times 10^5 = 321 \times 10^{5-2}$ [since the decimal point is moved two places to the right]
$= 321 \times 10^3 = 3,21,000$

(iii) $3.5 \times 10^3 = 35 \times 10^{3-1}$ [since the decimal point is moved one place to the right]
$= 35 \times 10^2 = 3,500$

Exponents Ex 6.3 Q3

Answer :

We have

(i) The distance between the Earth and the Moon is 3.84×10^8 metres.
[Since the decimal point is moved 8 places to the left.]

(ii) The diameter of the Earth is 1.2756×10^7 metres.
[Since the decimal point is moved 7 places to the left.]

(iii) The diameter of the Sun is 1.4×10^9 metres.
[Since the decimal point is moved 9 places to the left.]

(iv) The universe is estimated to be about 1.2×10^{10} years old.
[Since the decimal point is moved 10 places to the left.]

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