



### 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  $3.84 \times 10^8$  metres.  
[Since the decimal point is moved 8 places to the left.]
- (ii) The diameter of the Earth is  $1.2756 \times 10^7$  metres.  
[Since the decimal point is moved 7 places to the left.]
- (iii) The diameter of the Sun is  $1.4 \times 10^9$  metres.  
[Since the decimal point is moved 9 places to the left.]
- (iv) The universe is estimated to be about  $1.2 \times 10^{10}$  years old.  
[Since the decimal point is moved 10 places to the left.]

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