RD SHARMA

Solutions

Class 8 Maths

Chapter 2

Ex 2 , 3

1. Express the following numbers in standard form:

(i) 6020000000000000

(ii) 0.0000000000943

(iii) 0.00000000085

(iv) 846×10^7

(v) 3759×10^{-4}

(vi) 0.00072984

(vii) 0.000437×10^4

(viii) $4 \div 100000$

Answers:

To express a number in the standard for, move the decimal point such that there is only one digit to the left of the decimal point.

(i) $6020000000000000 = 6.02 \times 10^{15}$ (The decimal point is moved 15 places to the left.)

(ii) $0.0000000000943 = 9.43 \times 10^{-12}$ (The decimal point is moved 12 places to the right.)

(iii) $0.00000000085 = 8.5 \times 10^{-10}$ (The decimal point is moved 10 places to the right.)

(iv) $846 \times 10^7 = 8.46 \times 10^2 \times 10^7 = 8.46 \times 10^9$ (The decimal point is moved two places to the left.)

(v) $3759 \times 10^{-4} = 3.759 \times 10^3 \times 10^{-4} = 3.759 \times 10^{-1}$ (The decimal point is moved three places to the left.)

(vi) $0.00072984 = 7.984 \times 10^{-4}$ (The decimal point is moved four places to the right.)

(vii) $0.000437 \times 10^4 = 4.37 \times 10^{-4} \times 10^4 = 4.37 \times 10^0 = 4.37$ (The decimal point is moved four places to the right.)

(viii) $4 \div 100000 = 4 \times 100000^{-1} = 4 \times 10^{-5}$ (Just count the number of zeros in 1,00,000 to determine the exponent of 10.)

2. Write the following numbers in the usual form:

(i) 4.83×10^7

(ii) 3.02×10^{-6}

(iii) 4.5×10^4

(iv) 3×10^{-8}

(v) 1.0001×10^9

(vi) 5.8×10^2

(vii) 3.61492×10^6

(viii) 3.25×10^{-7}

Answers:

(i) $4.83 \times 10^7 = 4.83 \times 1,00,00,000 = 4,83,00,000$

(ii) $3.02 \times 10^{-6} = \frac{3.02}{10^6} = \frac{3.02}{10,00,000} = 0.00000302$

(iii) $4.5 \times 10^4 = 4.5 \times 10,000 = 45,000$

(iv) $3 \times 10^{-8} = \frac{3}{8} = \frac{3}{10,00,00,000} = 0.00000003$

(v) $1.0001 \times 10^9 = 1.0001 \times 1,00,00,00,000 = 1,00,01,00,000$

(vi) $5.8 \times 10^2 = 5.8 \times 100 = 580$

(vii) $3.61492 \times 10^6 = 3.61492 \times 10,00,000 = 3614920$

(viii) $3.25 \times 10^{-7} = \frac{3.25}{10^7} = \frac{3.25}{1,00,00,000} = 0.000000325$