

Chapter 12



Exponents and Powers

Addition and subtraction of two very large and very small numbers:

Example:

Find the sum of 3.34×10^{20} and 6.56×10^{18} .

Sol.

To add or subtract two large or small numbers, we follow the steps given below.

Step (i): Write both the numbers in their standard forms.

$$3.34 \times 10^{20} \text{ and } 6.56 \times 10^{18}$$

Step (ii): Rewrite the numbers such that the power of 10 in both of them is the same.

$$3.34 \times 10^{20} = 334 \times 10^{18} \text{ and } 6.56 \times 10^{18}$$

Step (iii): Add the numbers in the usual manner.

$$\begin{aligned} (3.34 \times 10^{20}) + (6.56 \times 10^{18}) &= (334 \times 10^{18}) + (6.56 \times 10^{18}) \\ &= (334 + 6.56) \times 10^{18} \\ &= 340.56 \times 10^{18} \\ &= \frac{340.56 \times 10^{18} \times 100}{100} = 3.4056 \times 10^{18} \times 10^2 \end{aligned}$$

$$\therefore (3.34 \times 10^{20}) + (6.56 \times 10^{18}) = 3.4056 \times 10^{20}$$