Expanded Notation for Decimal Numbers

This is a form in which we add the place value of each digit forming the number.

Let us understand with some examples:

Example: Write each of the following decimals in expanded form:

(i) 38.54 (ii) 83.107 (iii) 627.074

Solution: (i) $38.54 = 38 + \frac{5}{10} + \frac{4}{100} = 30 + 8 + 0.5 + 0.04$

(ii) $83.107 = 83 + \frac{1}{10} + \frac{0}{100} + \frac{7}{1000} = 80 + 3 + 0.1 + 0.007$

(iii) $627.074 = 627 + \frac{0}{10} + \frac{7}{100} + \frac{4}{100} = 600 + 20 + 7 + 0.07 + 0.004$