

Floating <.> fixed

\$31.22 \times

$10^{-1} = 3.122 \times 10^{-1} = 3.122 \times 10^0 =$

0.3122×10^2

Representation of Floating Point Numbers

Floating <-> fixed

$1.0010001011 \times 2^{23}$

31.22×10

$= 3.122 \times 10^1$

$= 0.3122 \times 10^2$

Scientific format

mass of earth

15.972×10^{24}

$9.1093837015(28) \times 10^{-31}$

$= 9.1093837015(28) \times 10^{-31}$

Normalized: single

digit integer

a number contains

three parts:

(1) sign

(2) exponent

(3) significant/effective

digits/mantissa