

Q5. Define one metre, the S.I. unit of length? State its one multiple and one sub-multiple?

ans: - 1 metre = 1,000 millimetre (or $1\text{m} = 1,000\text{mm}$)

OR

$$1\text{ millimetre} = \frac{1}{1000}\text{ metre (or } 1\text{m} = \frac{1}{1000}\text{ m)}$$

So, the S.I. unit of length is metre (m)

Multiple of Metre :-

① Kilometre (symbol-km)

$$1\text{ km} = 1000\text{ m}$$

Sub-multiple of Metre :-

① Centimetre (symbol-cm)

$$1\text{ cm} = \frac{1}{100}\text{ m or } 10^{-2}\text{ m}$$

② Millimetre (symbol-mm)

$$1\text{ mm} = \frac{1}{1000}\text{ m or } 10^{-3}\text{ m}$$

One metre is defined as the distance travelled by light in air in $\frac{1}{299,792,458}$ of a second (or in $\frac{1}{3 \times 10^8}$ of a second).

6. ✓ Convert the following quantities as indicated :

(a) 12 inch = 1..... ft

(b) 1 ft = 30.48 cm

(c) 20 cm = 0.2..m

(d) 4.2 m = 420.. cm

(e) 0.2 km = 200.. m

(f) 0.2 cm = 2..... mm

(g) 1 yard = 0.91.. m

Q1. What do you mean by error of parallax?

ans:- Parallax error refers to an error that occurs due to the wrong position of eyes while taking a reading on measuring scale.

Q2. Explain stepwise how to take measurement of length of an object with a metre scale?

ans:- To measure the length of an object with a metre ruler, the ruler is placed with its markings close to the object:-

i) Then the zero mark on the ruler is made to coincide with one end of the object.

ii) The position of the other end of the object is read on the ruler. This reading gives the length of an object.

Q3. Explain stepwise how to take measurement of length of an object with a measuring tape?

ans:- To measure the length of an object with a measuring scale we have to:-

i) We have to measure the length of a curved line AB, the tape is spread along the length of the curved line.

ii) The ends of the line A and B are read on the tape.

iii) The difference of these readings gives the length of the curved line.