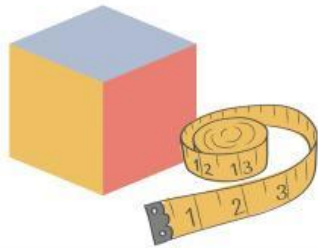


Name: _____

Date: _____



NON-STANDARD MEASUREMENT

Count how many cubes long each object is. Write the number of cubes in the line provided.
(Hitung berapa panjang kubus setiap benda. Tuliskan banyaknya kubus pada baris yang tersedia.)



--	--	--	--	--	--	--	--	--	--

About ____ cubes long.



--	--	--	--	--	--	--	--	--	--

About ____ cubes long.



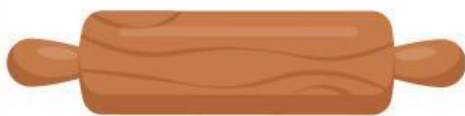
--	--	--	--	--	--	--	--	--	--

About ____ cubes long.



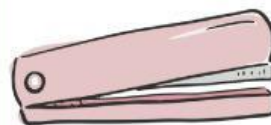
--	--	--	--	--	--	--	--	--	--

About ____ cubes long.



--	--	--	--	--	--	--	--	--	--

About ____ cubes long.

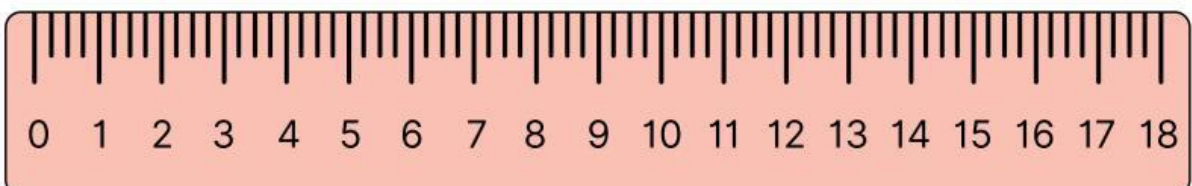
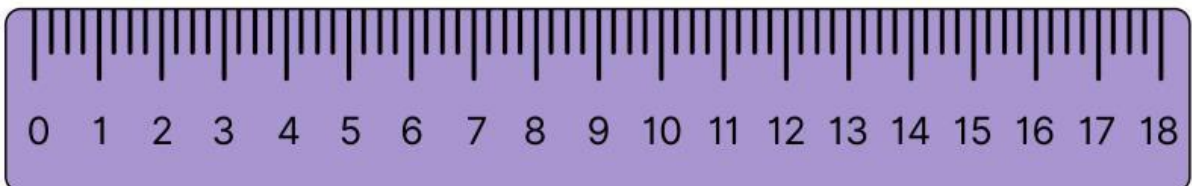
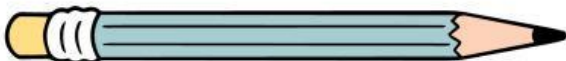
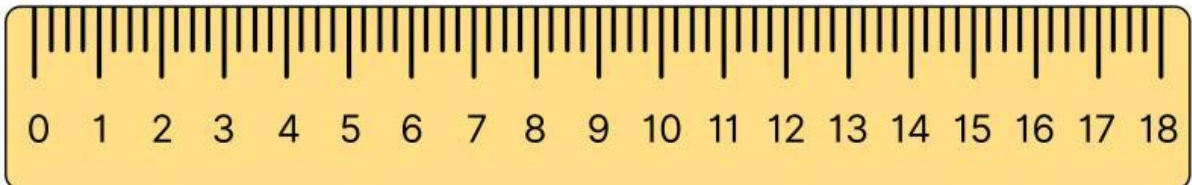
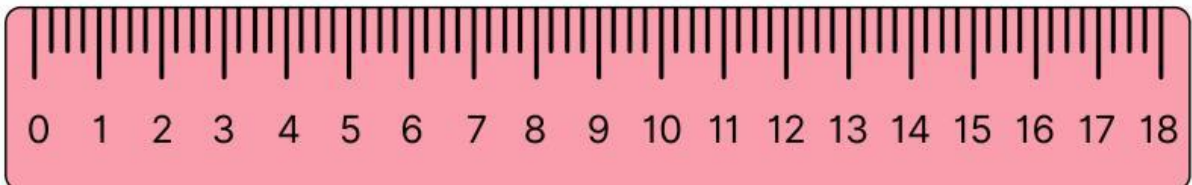
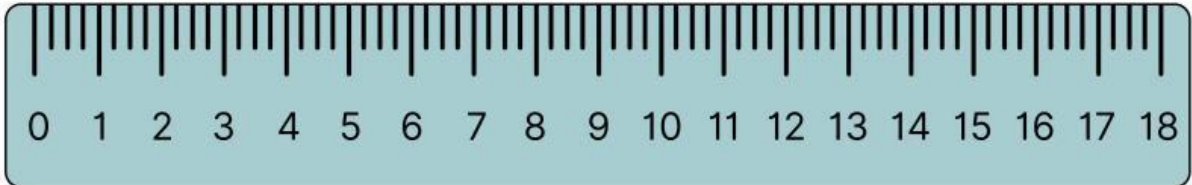
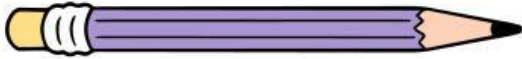


--	--	--	--	--	--	--	--	--	--

About ____ cubes long.

MEASUREMENT: LENGTH

Type the answer into the box in cm (Tulis jawaban di dalam kotak dalam cm)



Measuring Length (Mengukur Panjang)

1 Circle the formal unit(s) of measurement



2 Circle the shortest person



3 Circle the longest line



MEASURING LENGTH

Jawabannya ada di buku paket Science A Head page 27 - 30.

1. Length is the distance between _____.

2. The SI Unit of length is _____. The symbol is _____.

Length can also be measured in other units. For example, we measure short lengths in centimetres (cm) or millimetres (mm), and long distances in kilometres (km).

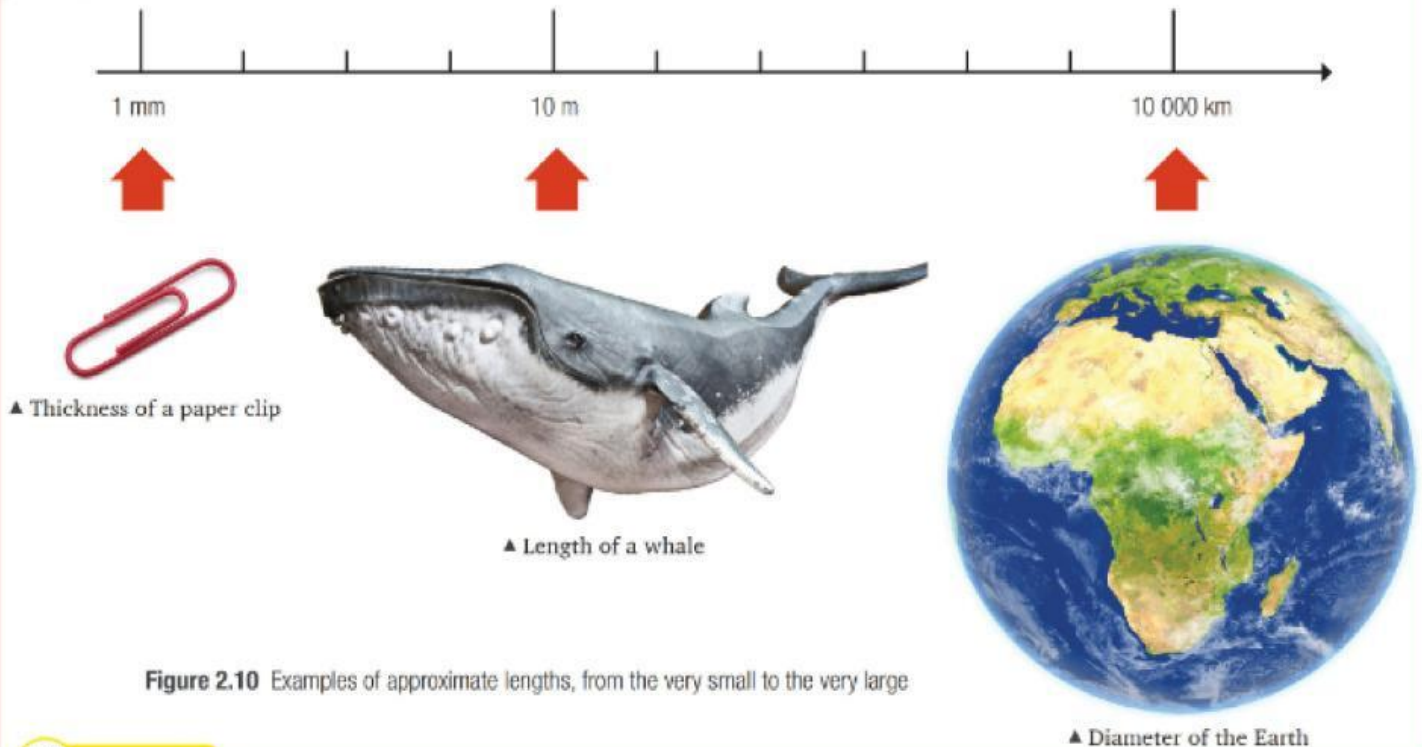


Figure 2.10 Examples of approximate lengths, from the very small to the very large

3. Complete the following. A worked example is given below.

1 km = 1000 m = 100 000 cm = 1 000 000 mm

1 _____ km = 1 m = _____ cm = _____ mm

2 _____ km = _____ m = 1 cm = _____ mm

3 _____ km = _____ m = _____ cm = 1 mm

4. Look at Figure 2.15 which shows the scale on a rule viewed from different positions when measuring the width of a book.

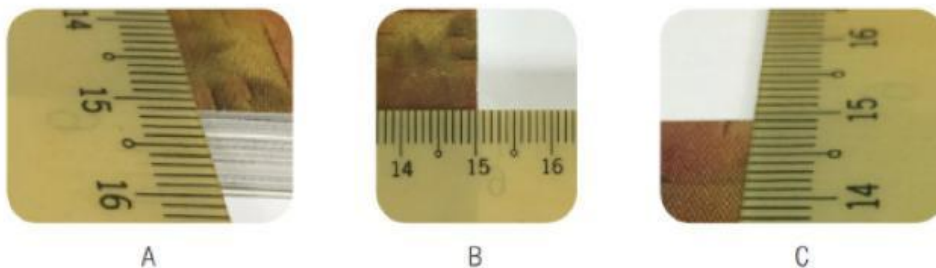


Figure 2.15 Reading the scale on a rule from different positions

- 1 What is the reading on the rule from each of the positions A, B and C?
- 2 Which reading gives the accurate measurement?
- 3 Why are the other two readings wrong?

5. Instruments use to measure length

a. Measuring tape (Meteran)

Meteran digunakan untuk mengukur jarak atau panjang sampai _____ meter.

- Mengukur lebar struktur bangunan,
- Mengukur jarak lempar lembing.

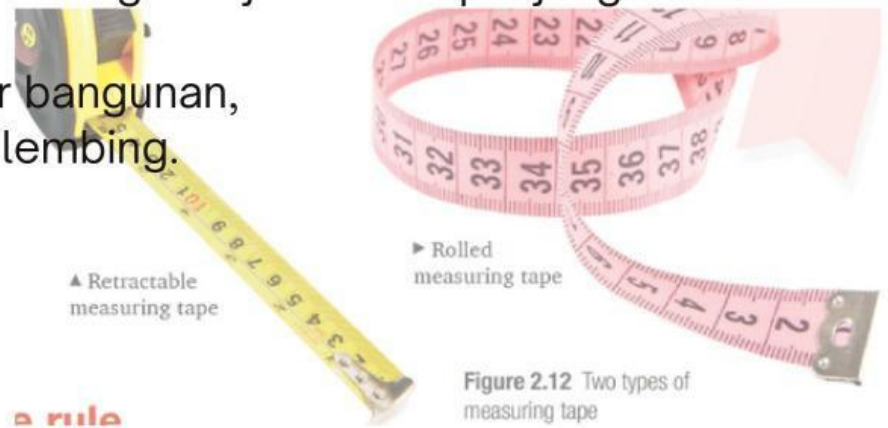


Figure 2.12 Two types of measuring tape

b. Metre rule or half metre rule (Penggaris 1 Meter dan Penggaris Setengah Meter/ _____ cm)

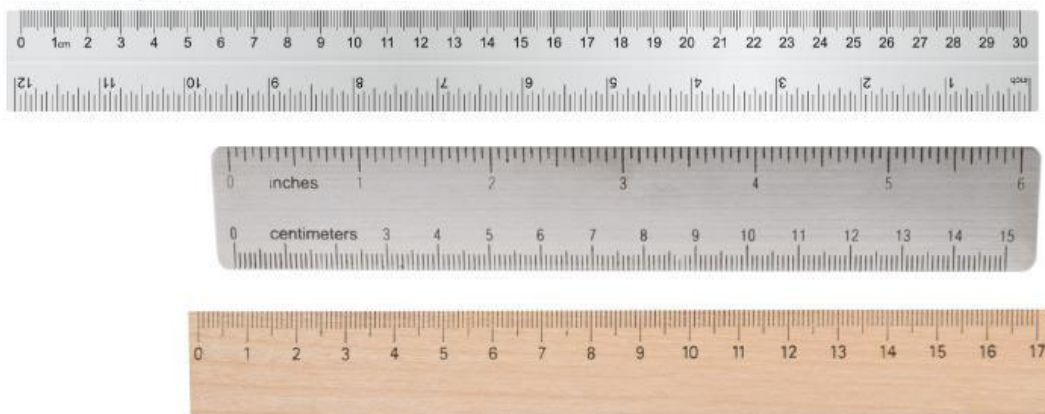
Penggaris 1 Meter dan Penggaris Setengah Meter digunakan untuk mengukur jarak atau panjang yang lebih pendek atau panjang dalam centimeter (cm).



Figure 2.13 The metre rule and half-metre rule are commonly used in the laboratory.

c. Ruler (Penggaris)

Penggaris yang sering kita gunakan, satuannya dalam cm, panjangnya kurang dari 50 cm.



Instruments use to measure length

d. Vernier Caliper (Jangka Sorong)

Jangka sorong digunakan untuk mengukur ketebalan benda (dalam centimeter), mengukur diameter dalam benda (rahang geser atas), dan mengukur kedalaman suatu bentuk benda menggunakan tangkai ukur bagian bawah. Menggunakan skala utama dan skala nonius/skala vernier.



Figure 2.17 Measuring diameter using a pair of digital calipers

e. Screw Gauge (Mikrometer Sekrup)

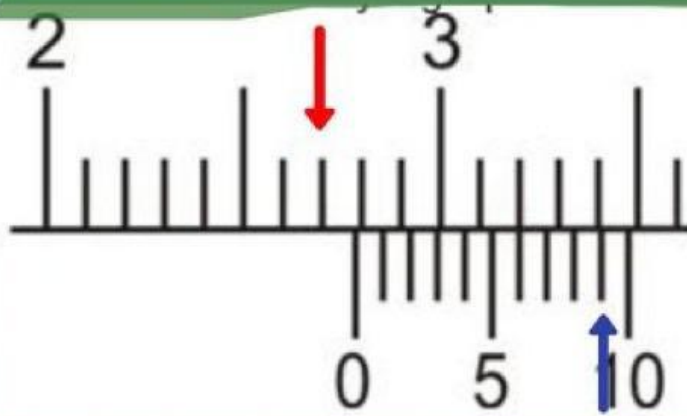
Mikrometer sekrup digunakan untuk mengukur diameter atau ketebalan benda (satunya milimeter). Menggunakan skala utama dan skala nonius.



Key Points

- Length is the distance between two points.
- The SI unit of length is the metre (m).
- We can measure length using a measuring tape, metre rule or half-metre rule.
- Parallax error is caused by placing the eye in the wrong position when reading a measurement. We can avoid it by placing our eye vertically above the mark on the scale to be read.

JANGKA SORONG



Skala utama

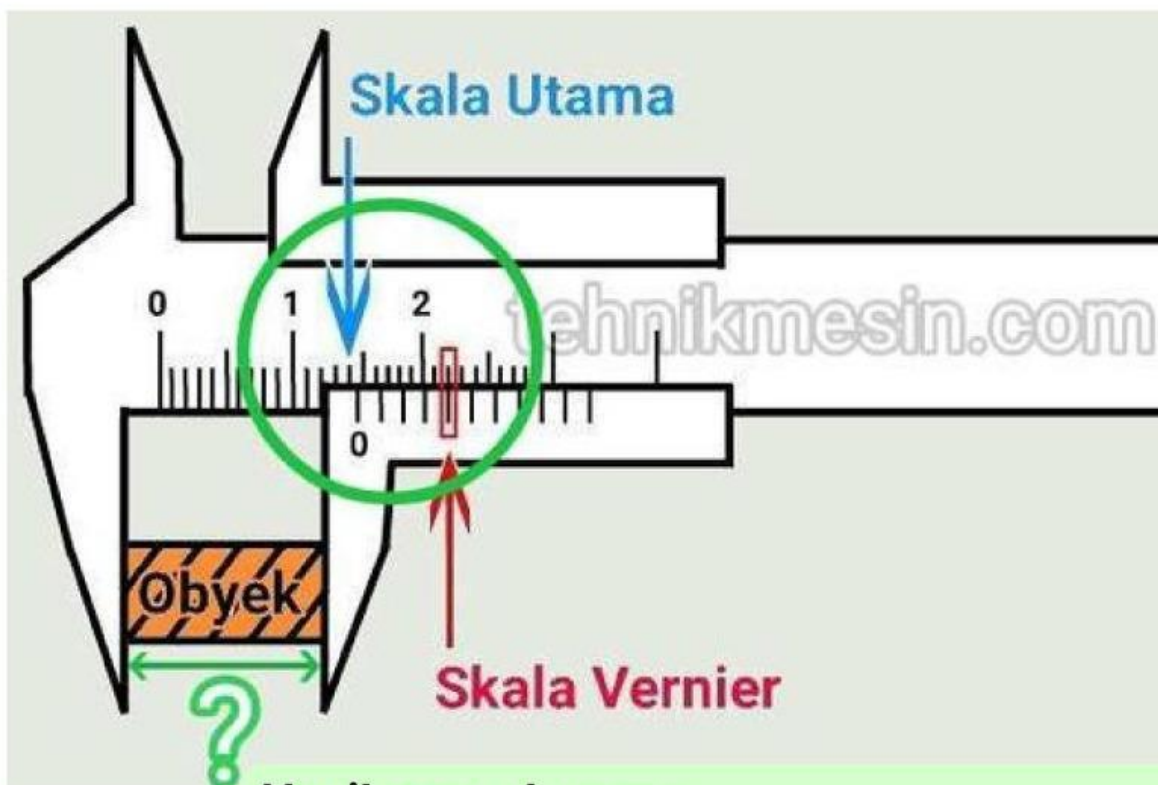
Skala nonius

1. Lihat angka skala utama yang terletak pas sebelum angka 0 skala nonius (panah merah) **2,7 cm**

2. Lihat angka skala nonius yang berhimpit lurus dengan skala utama, antara atas dan bawah spt satu garis lurus (panah biru)

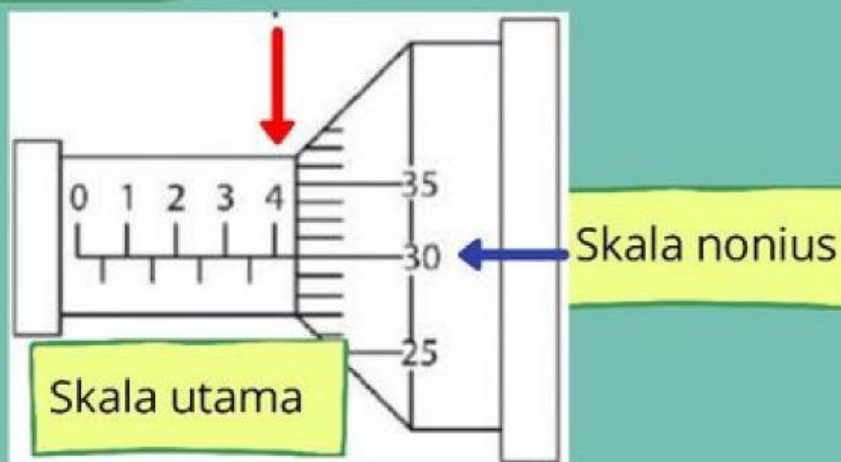
$$9 \times 0,01 \text{ cm} = 0,09 \text{ cm}$$

Hasil pengukuran : $2,7 \text{ cm} + 0,09 \text{ cm} = 2,79 \text{ cm}$



Hasil pengukuran = _____ cm

MIKROMETER SEKRUP

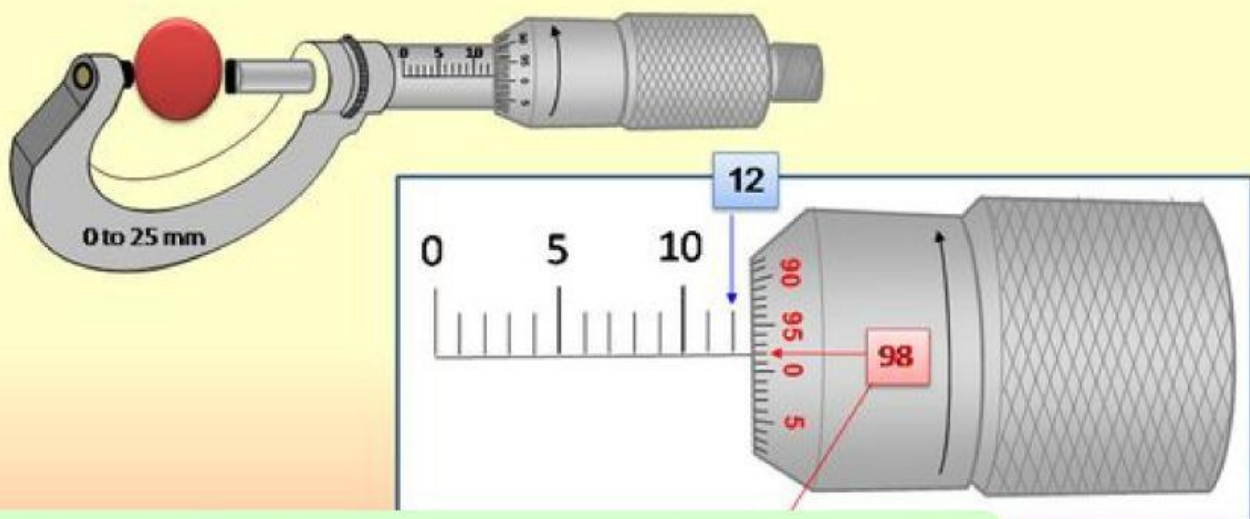


1. Lihat angka skala utama yang terletak pas sebelum skala nonius (panah merah) **4 mm**
2. Lihat angka skala nonius yang berhimpit lurus dengan skala utama, antara kanan dan kiri spt satu garis lurus (panah biru)

$$30 \times 0,01 \text{ mm} = 0,3 \text{ mm}$$

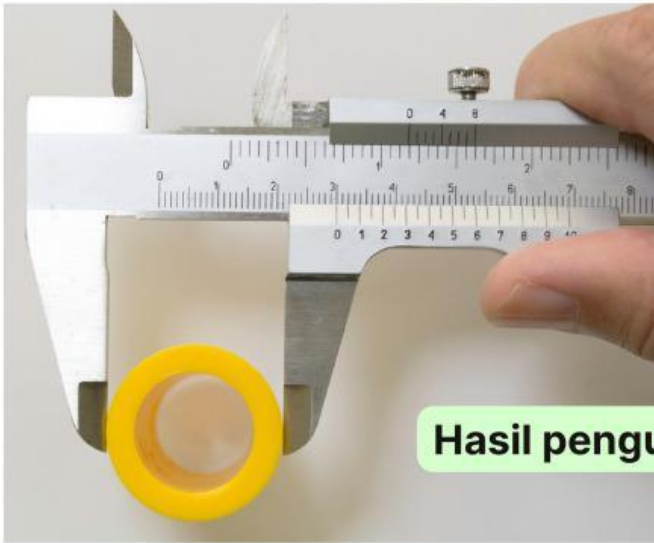
Hasil pengukuran : $4\text{mm} + 0,3 \text{ mm} = 4,3 \text{ mm}$

Example : 1 - Measure diameter of Sphere.



Hasil pengukuran = _____ mm

Contoh Soal Jangka Sorong dan Mikrometer Sekrup

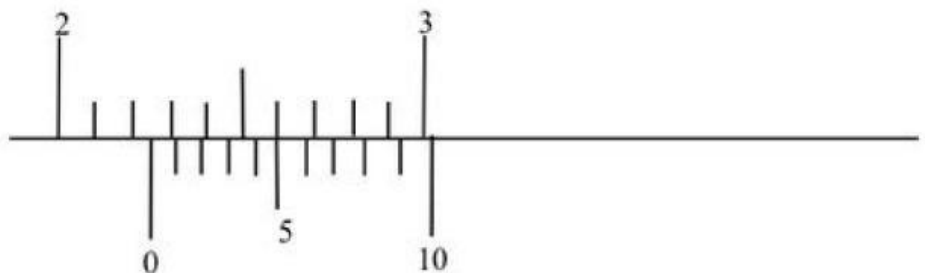


Hasil pengukuran = _____ cm



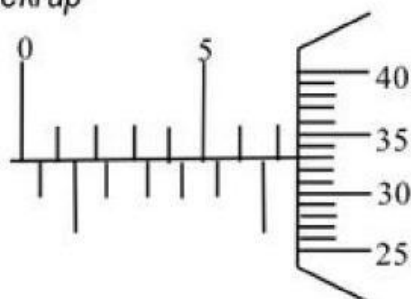
Hasil pengukuran = _____ mm

Jangka sorong



Pembacaan jangka sorong di atas

Mikrometer sekrup



Pembacaan mikrometer sekrup di atas