EXERCISES IN LINEAR MEASURE

Purpose:

1. To learn to read a steel scale in fractional and decimal parts of an inch; also in centimeters and millimeters.
2. To construct lines equal to given measurements.
3. To measure lines to their nearest fractional and decimal part of an inch; also in centimeters and millimeters.

Tools and Materials:

Steel scale, metric and English, well sharpened pencil.

Discussion:

As a scale is used the ends become worn. Where possible, it is advisable to begin measuring on some unit within the scale. This eliminates one source of error, but care must be taken to subtract this amount from the total reading.

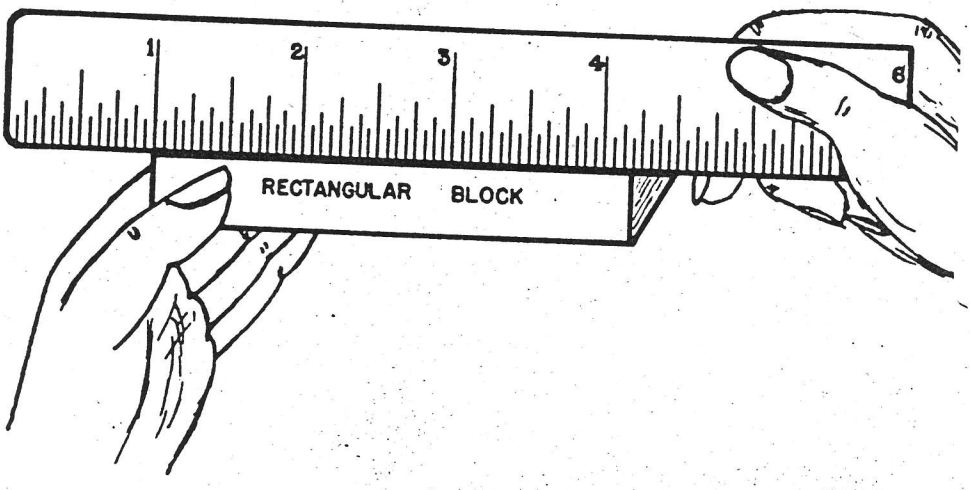

Fig. 4

Right hand reading on scale.....$4\frac{3}{16}$ inches
Left hand reading on scale .....1 inch
Length of block .....$3\frac{3}{16}$ inches

Methods of Measurement by
Wendell H. Cornetet pub by Grosset + Dunlap
New York 1943

When drawing the lines in the following exercise, use a well sharpened pencil. This should always be done in making diagrams. Broad, irregular lines are worthless because they are inaccurate.

DRAWING LINES TO EXACT LENGTH

Using a steel scale and sharpened pencil, accurately draw straight lines of the following lengths as shown in example (a).

a. $3\frac{1}{4}$ inches

b. $2\frac{5}{8}$ inches .....

c. $3\frac{3}{16}$ inches .....

d. $1\frac{53}{64}$ inches .....

e. $2\frac{11}{32}$ inches .....

f. $2\frac{1}{2}$ inches .....

g. $3\frac{1}{4}$ inches .....

h. $3\frac{9}{10}$ inches .....

i. $3\frac{79}{100}$ inches .....

j. 2.7 inches .....

k. 1.97 inches .....

l. $3\frac{3}{64}$ inches .....

m. $2\frac{5}{32}$ inches .....

n. 1.75 inches .....

o. $3\frac{47}{64}$ inches .....

p. $2\frac{9}{32}$ inches .....

q. $1\frac{95}{100}$ inches .....

r. $3\frac{1}{10}$ inches .....

s. $3\frac{17}{64}$ inches .....

t. $\frac{64}{32}$ inches .....

aa. 2 cm .....

bb. 9 cm .....

cc. 8 cm .....

dd. $6\frac{1}{2}$ cm .....

ee. 75 mm .....

ff. 65 mm .....

gg. 25 mm .....

hh. 45 mm .....

ii. 5.6 cm .....

jj. 7.8 cm .....

kk. 8.4 cm .....

ll. 1.75 cm .....

MEASURING EXACT LENGTHS

Using a steel scale, measure the following lines as specified. Write the measurement both in numerals and words.

1. Measure to the nearest quarter of an inch:

(a) ⊢——————⊣ .....

In words .....

(b) ⊢——————⊣ .....

In words .....

(c) ⊢——⊣ .....

In words .....

(d) ⊢——————⊣ .....

In words .....

2. Measure to the eighth of an inch:

(a) ⊢——————⊣ .....

In words .....

(b) ⊢——————⊣ .....

In words .....

(c) ⊢——————⊣ .....

In words .....

(d) ⊢——⊣ .....

In words .....

3. Measure to the nearest sixteenth of an inch:

(a) ⊢——————⊣ .....

In words .....

(b) ⊢——⊣ .....

In words .....

(c) ⊢——————⊣ .....

In words .....

(d) ⊢——⊣ .....

In words .....

4. Measure to the nearest thirty-second of an inch:

(a) .....

In words .....

(b) .....

In words .....

(c) .....

In words .....

(d) .....

In words .....

5. Measure to the nearest sixty-fourth of an inch:

(a) .....

In words .....

(b) .....

In words .....

(c) .....

In words .....

(d) .....

In words .....

6. Measure to the nearest tenth of an inch:

(a) .....

In words .....

(b) .....

In words .....

(c) .....

In words .....

(d) .....

In words .....

(e) .....

In words .....

(f) .....

In words .....

(g) .....

In words .....

(h) .....

In words .....