

# READING A MICROMETER

Get Precise  
Measurements



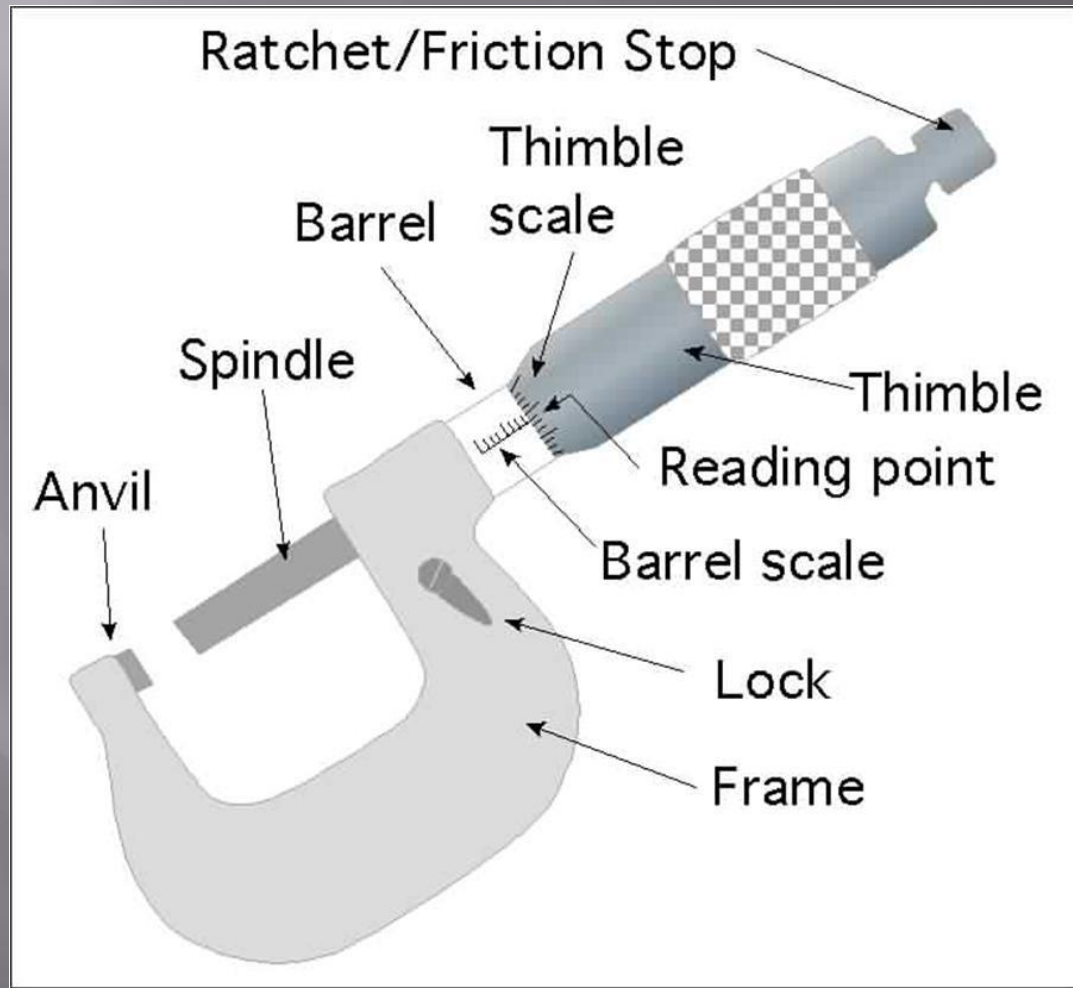
# Small Engines Use 3 Types

- Micrometer
- Caliper
- Depth Gauge Micrometer

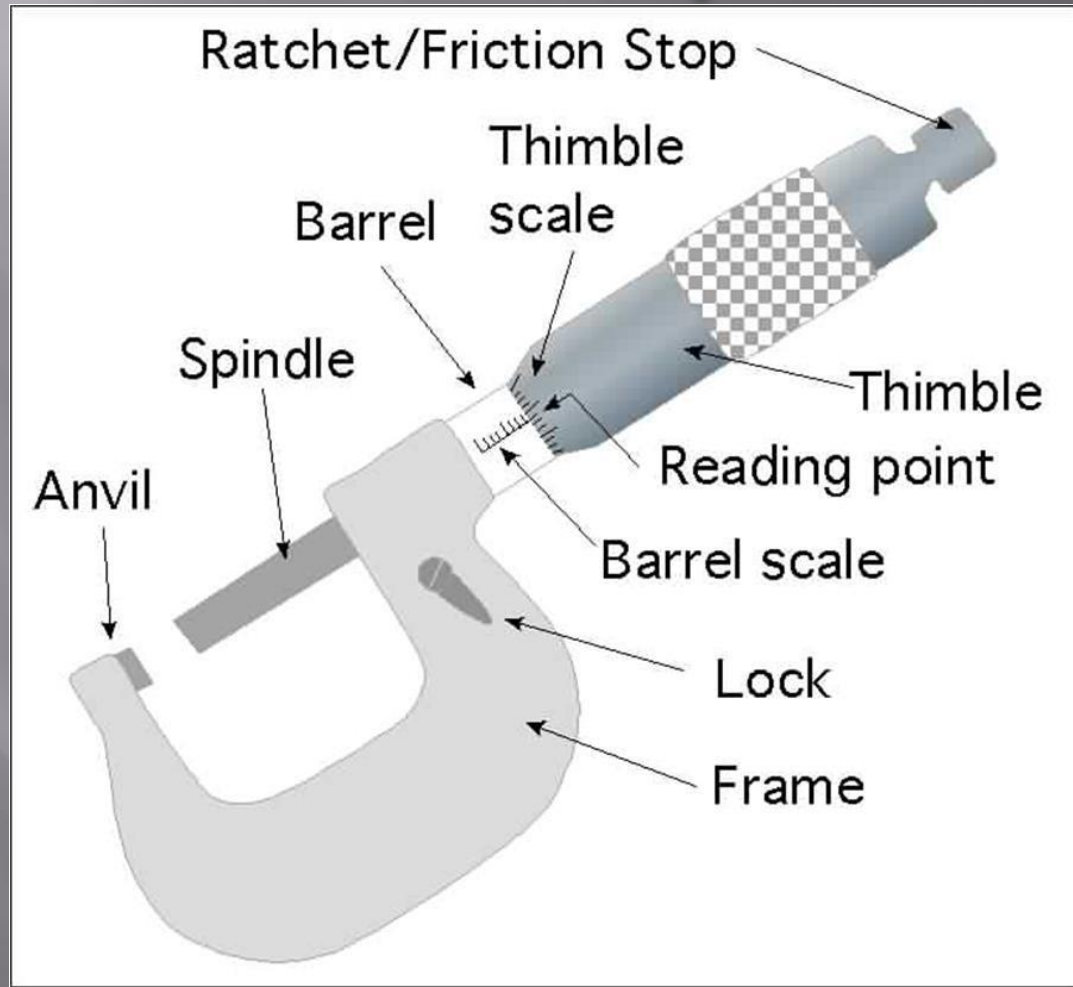
# Micrometers

- Measure as small as 1/10,000 of an inch (.0001 inch)
- Different frame sizes are used to provide a wider measurement range.

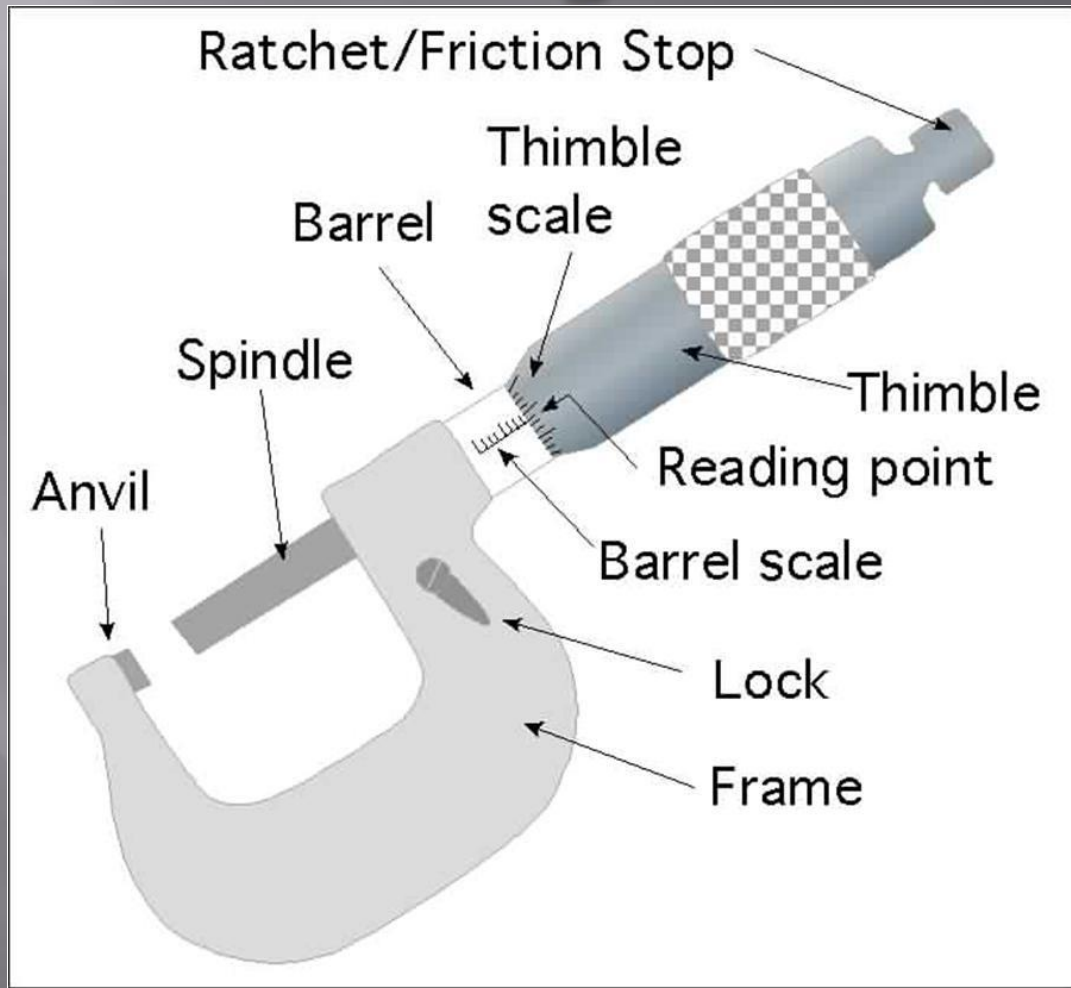
# Know the Parts



# Spindle and Anvil are the contact points

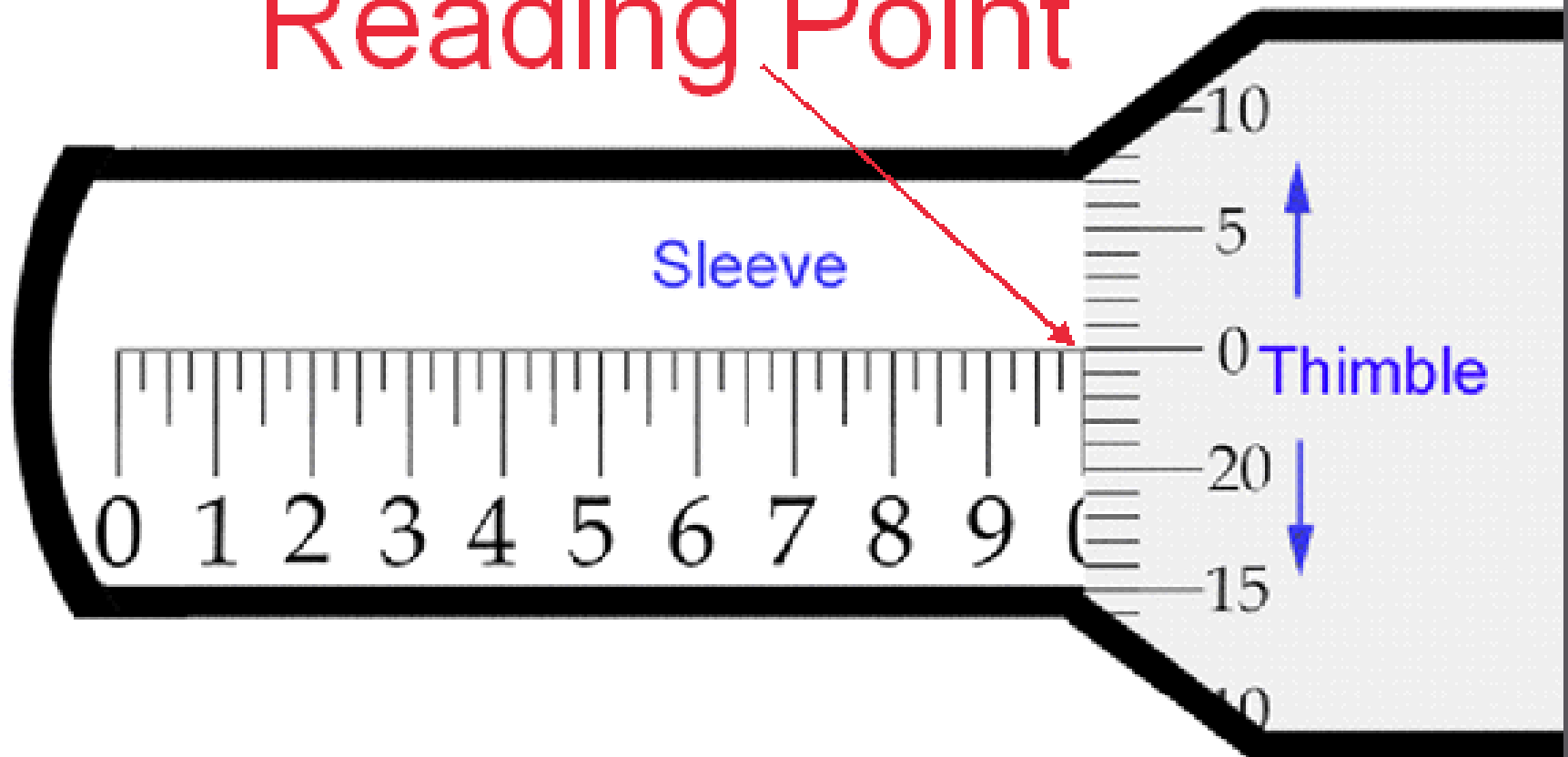


# Spindle and Thimble turn together



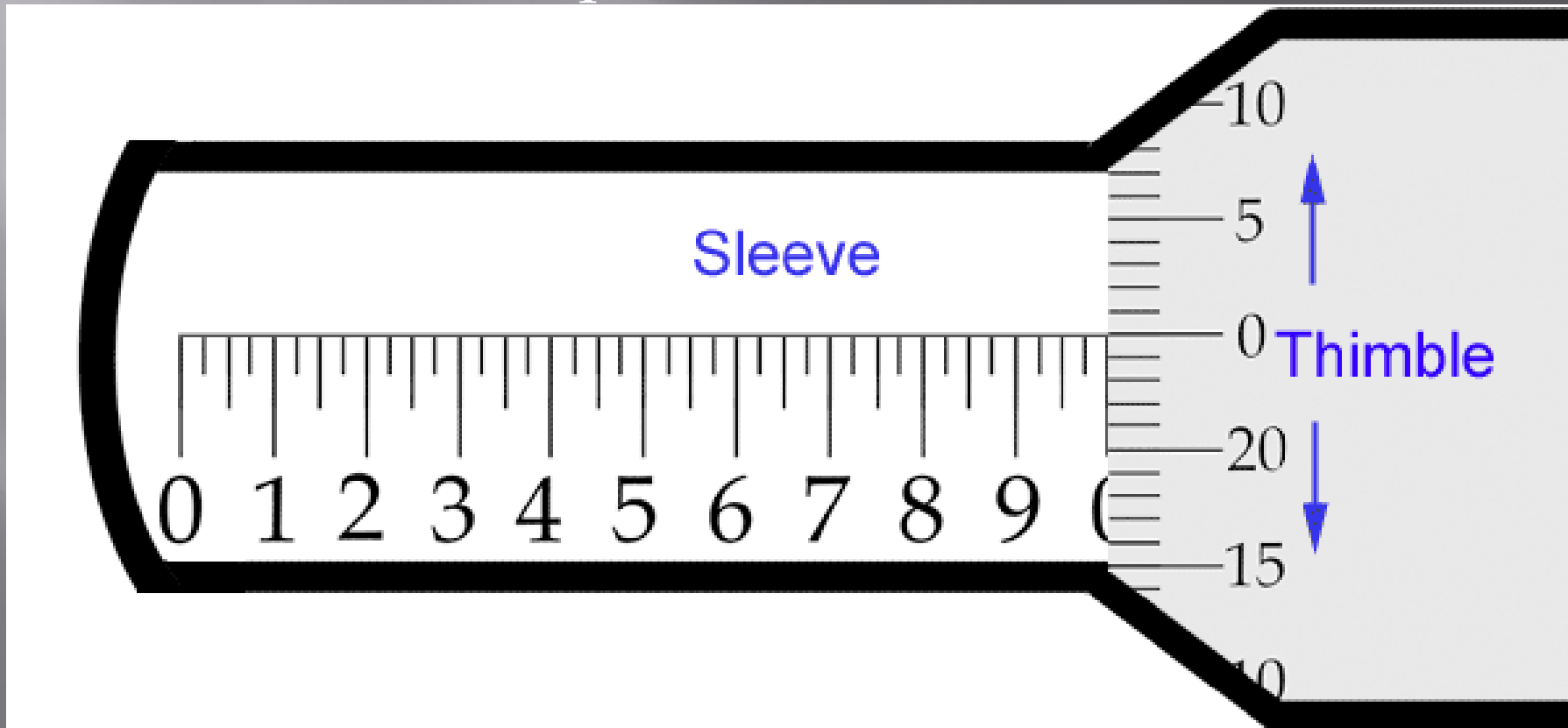
A micrometer caliper is read at the point where the edge of the thimble crosses the barrel scale or sleeve

## Reading Point



# The Sleeve

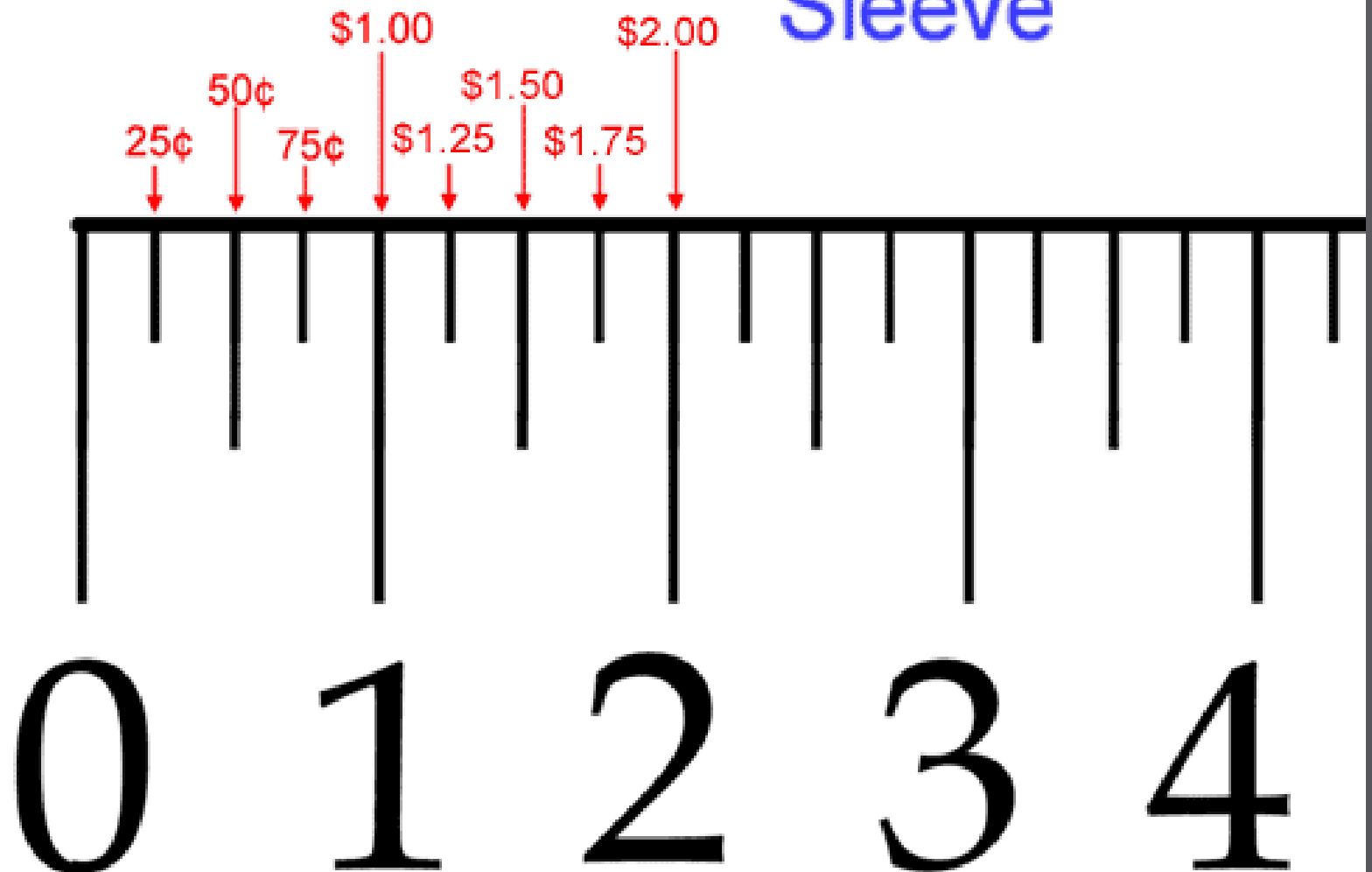
- ▣ The space between each number is divided into quarters.



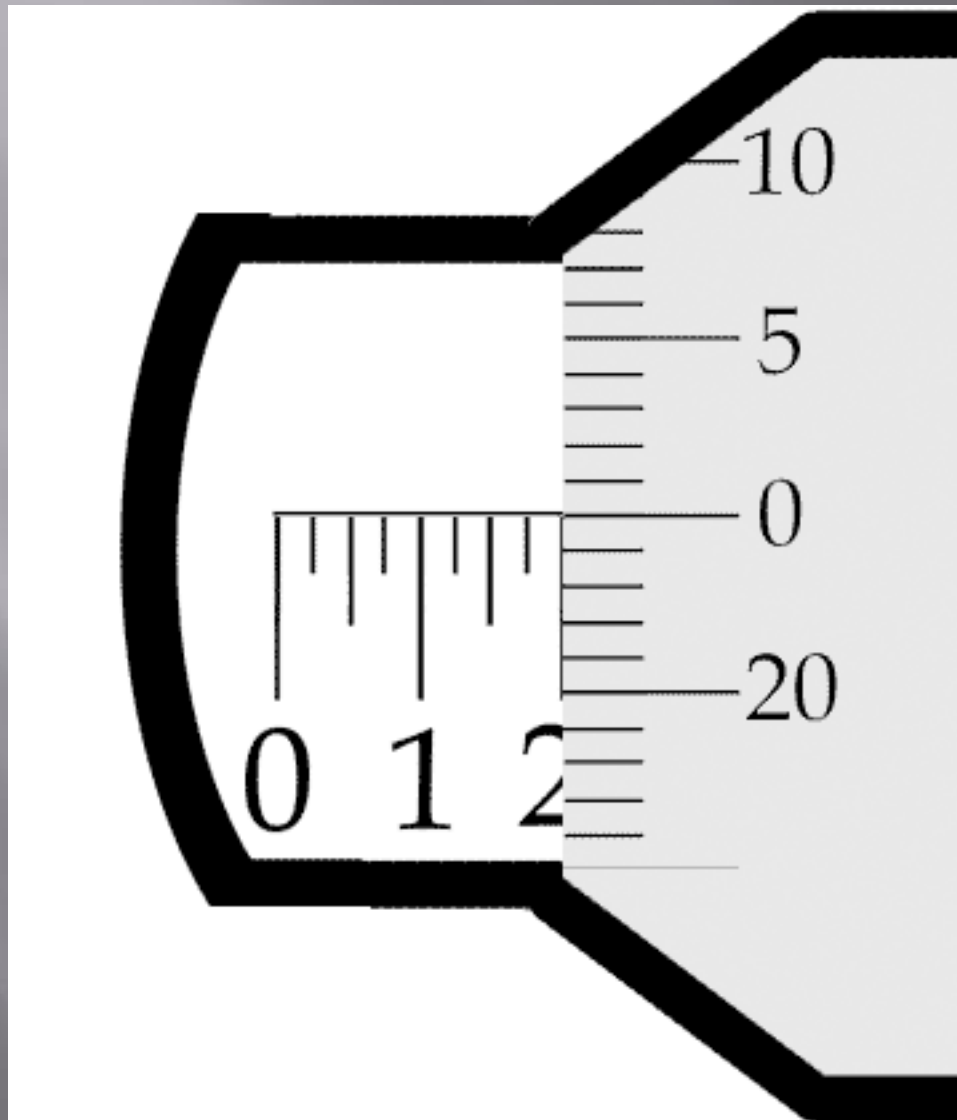


Easy to read just think  
of the sleeve as \$

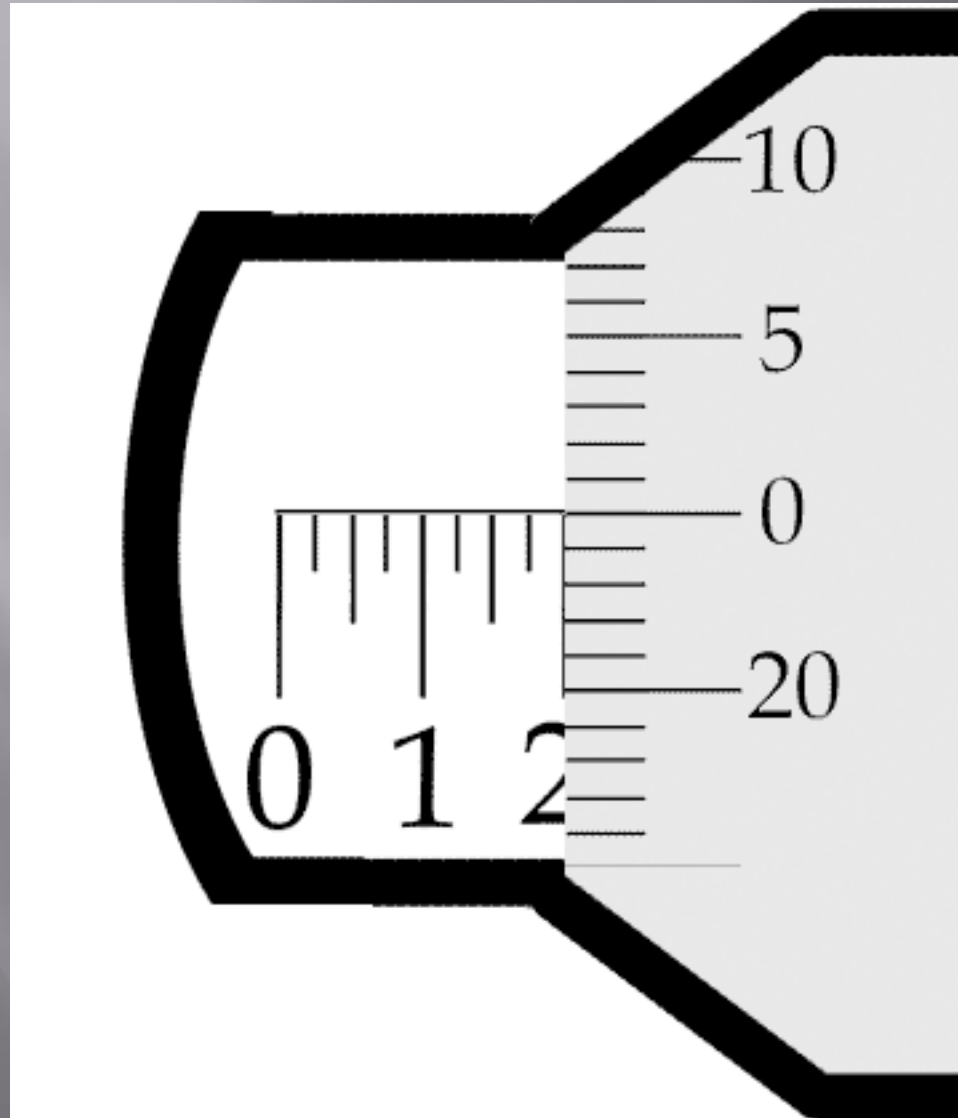
Sleeve



# What is the measurement?

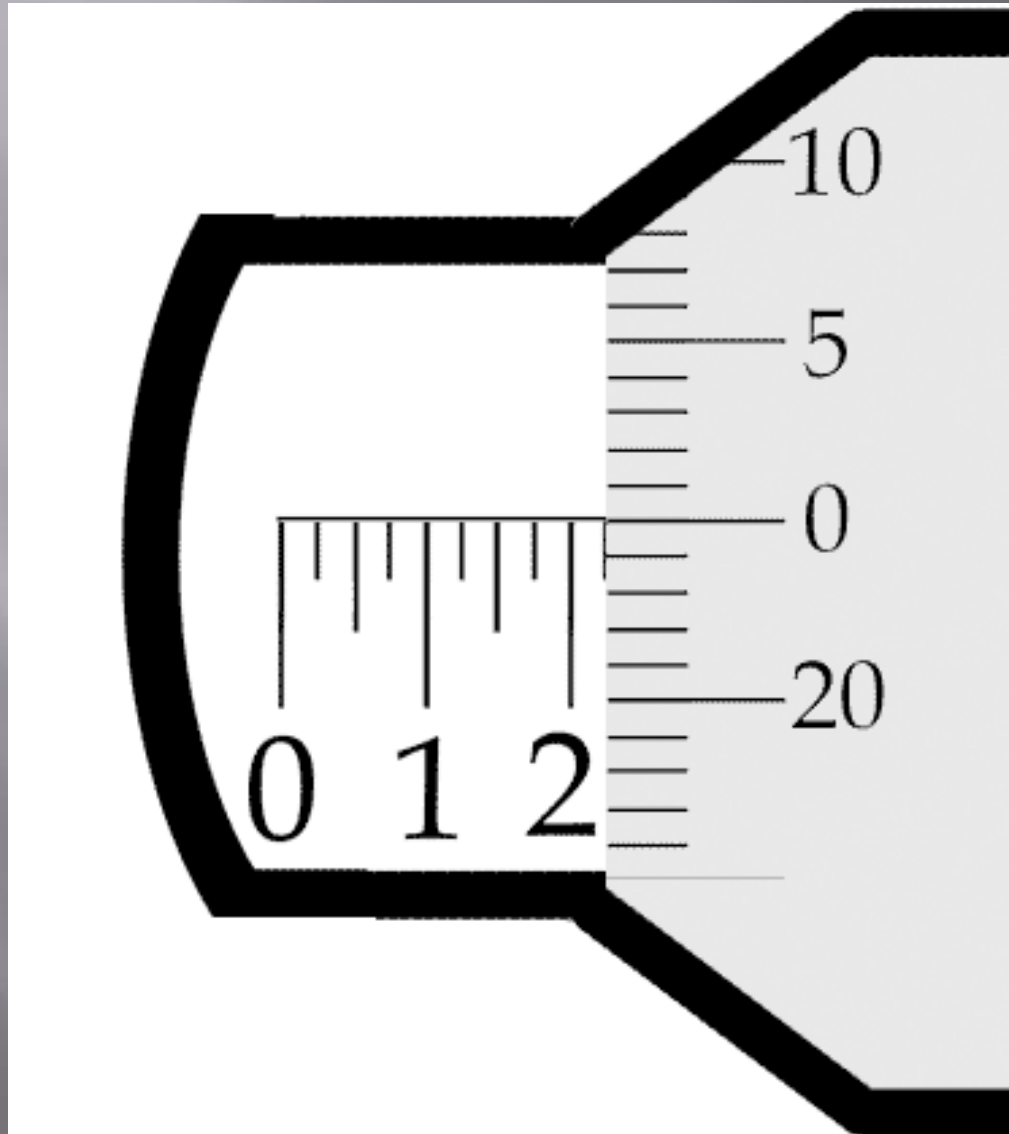


# What is the measurement?

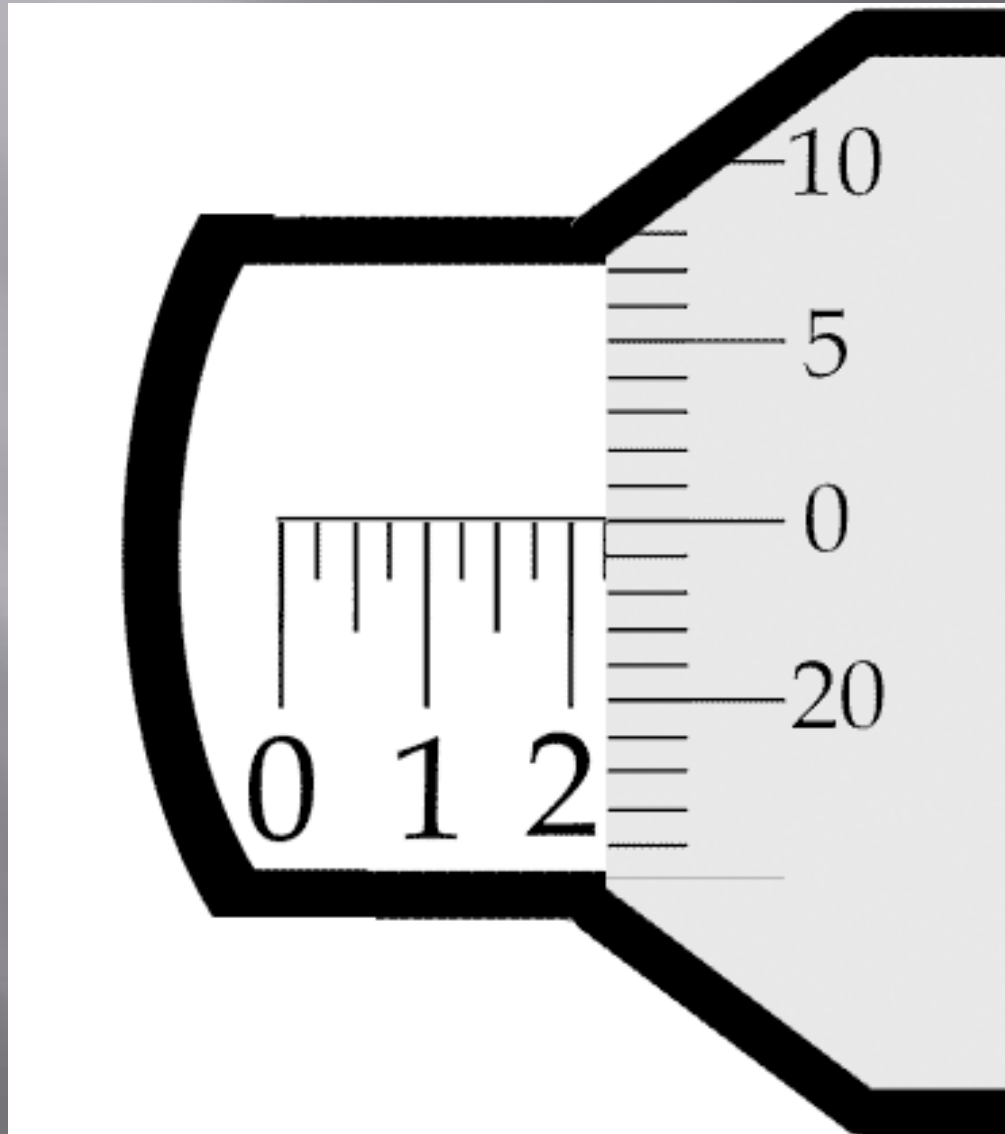


\$2.00 or  
0.200 inches

# What is the measurement?

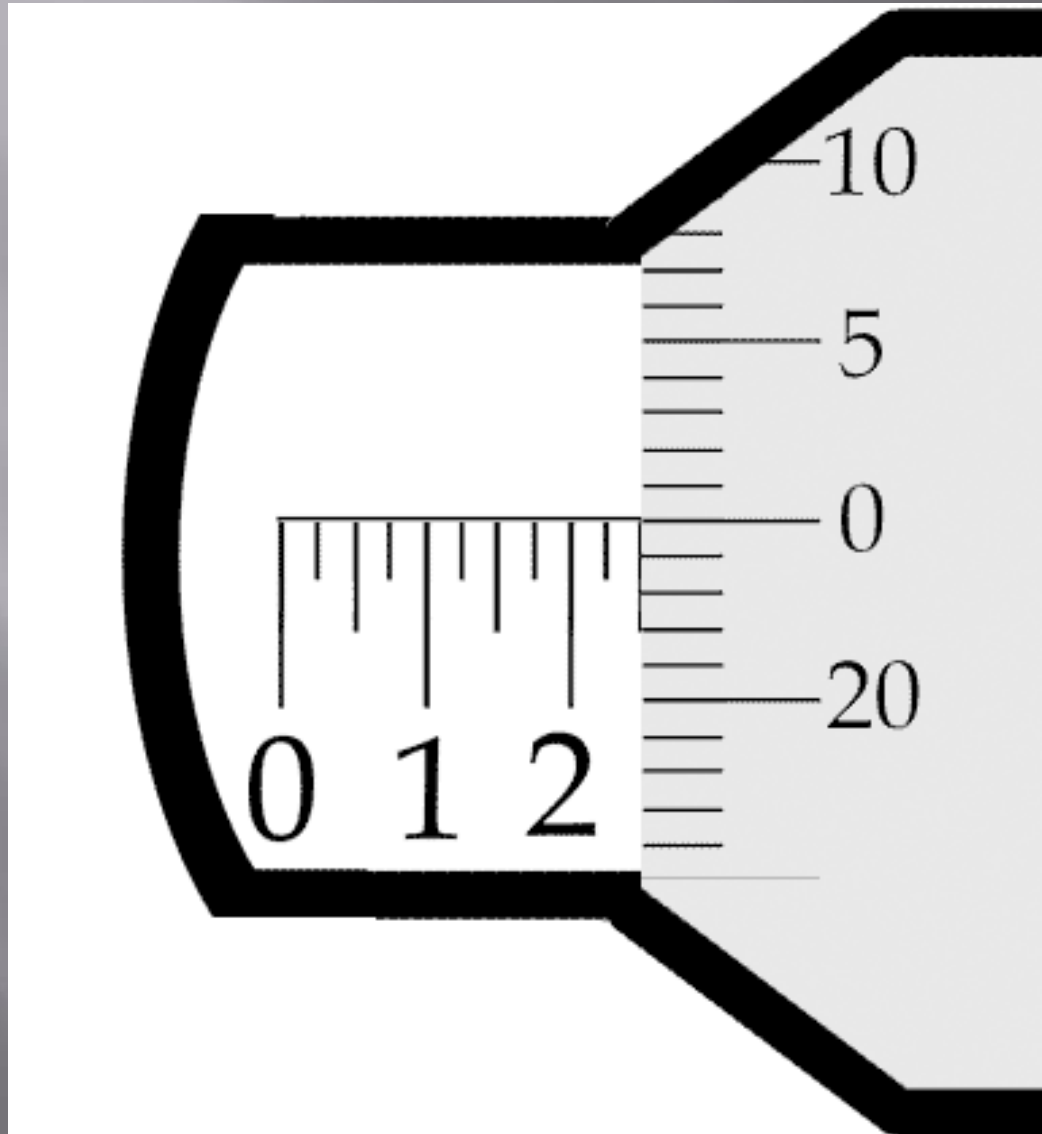


# What is the measurement?

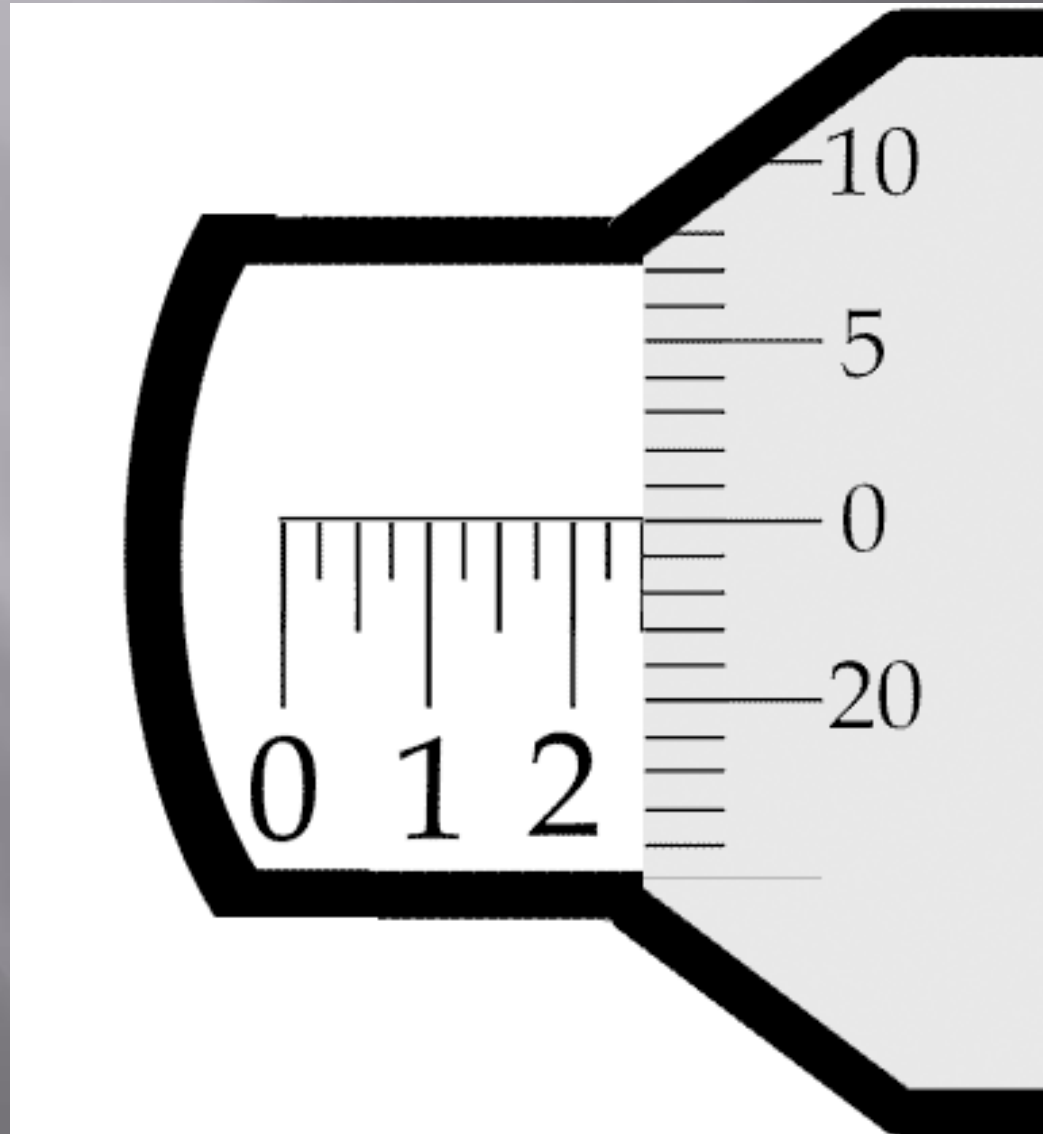


\$2.25 or  
0.225 inches

# What is the measurement?

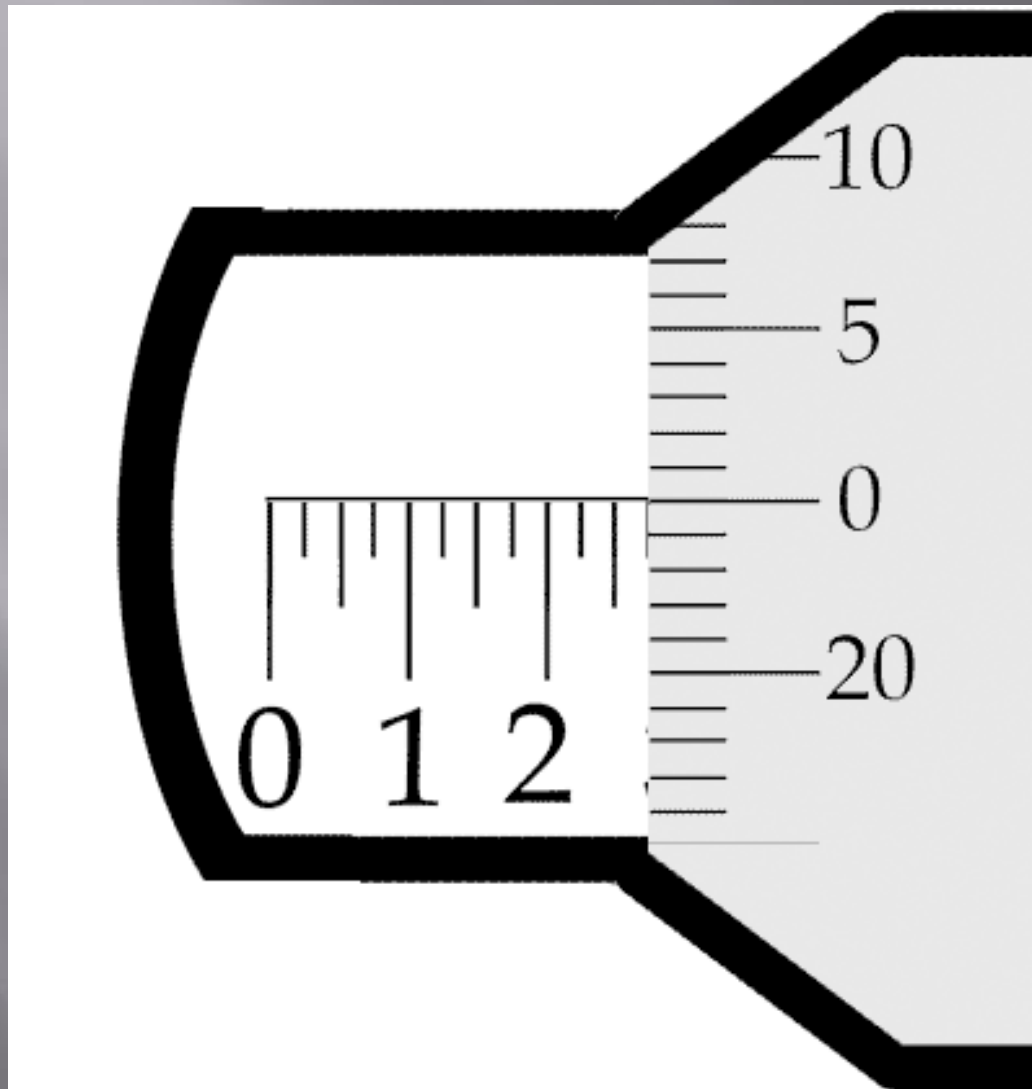


# What is the measurement?



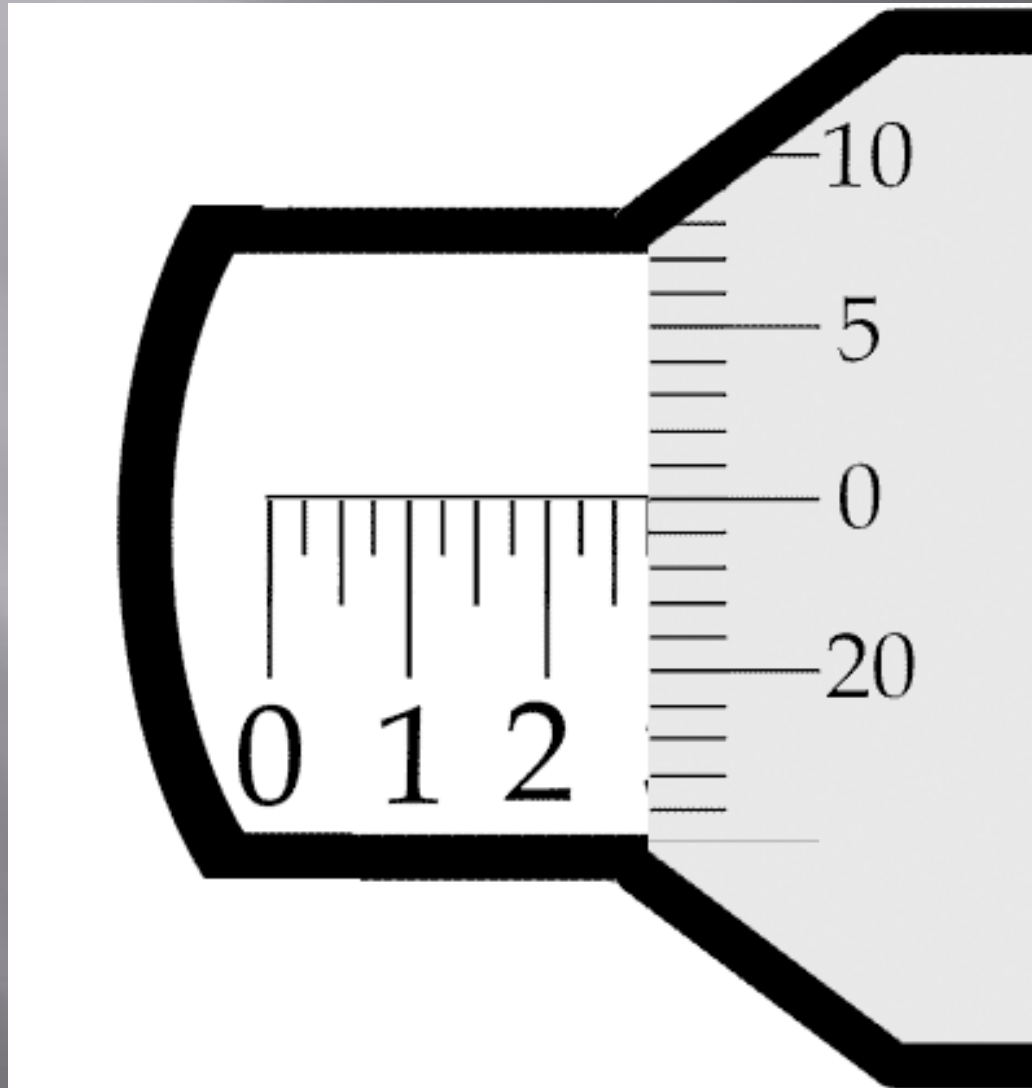
\$2.50 or  
0.250 inches

# What is the measurement?



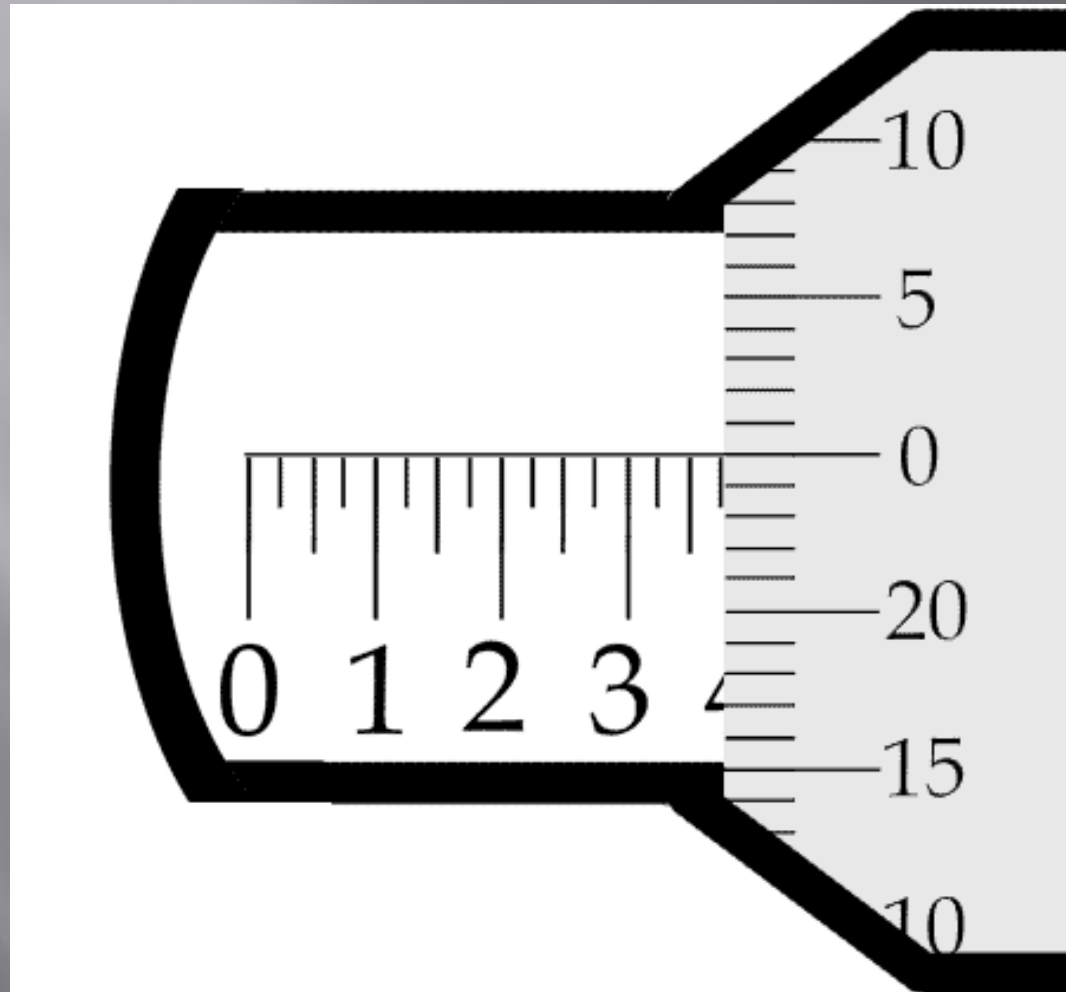


# What is the measurement?

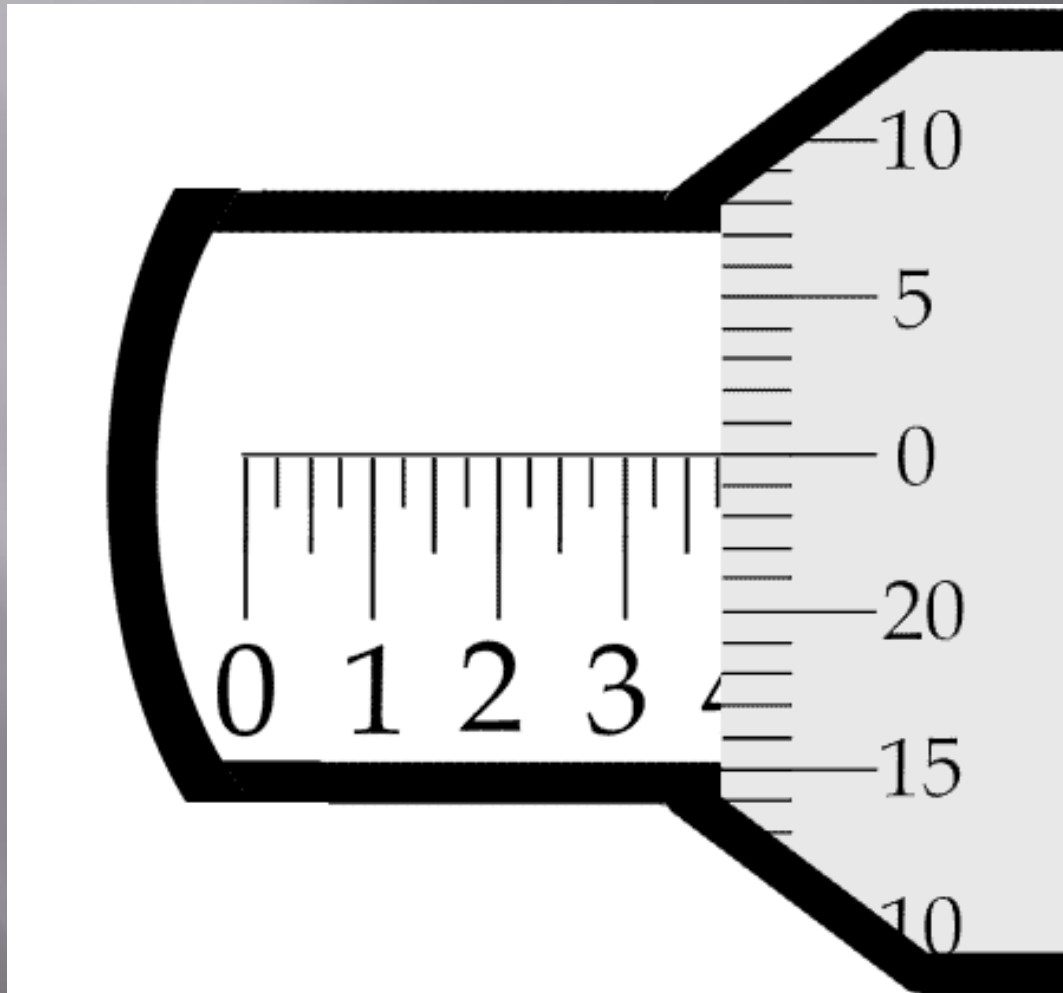


\$2.75 or  
0.275 inches

# What is the measurement?



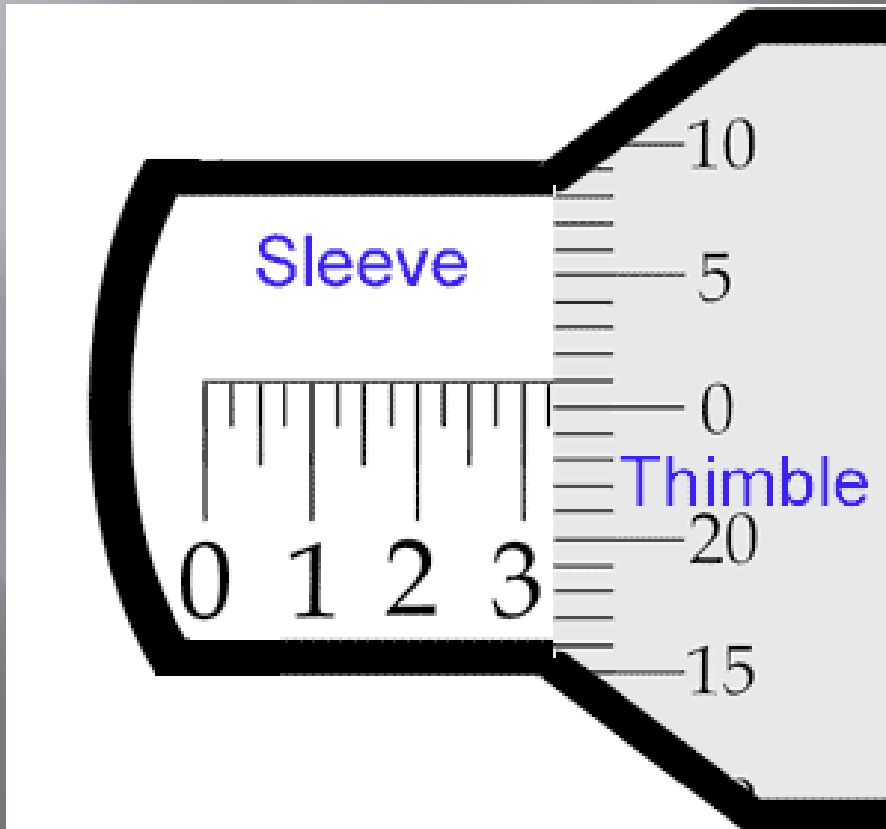
# What is the measurement?



\$3.75 or  
0.375 inches

# If the sleeve is dollars and quarters, the thimble is pennies

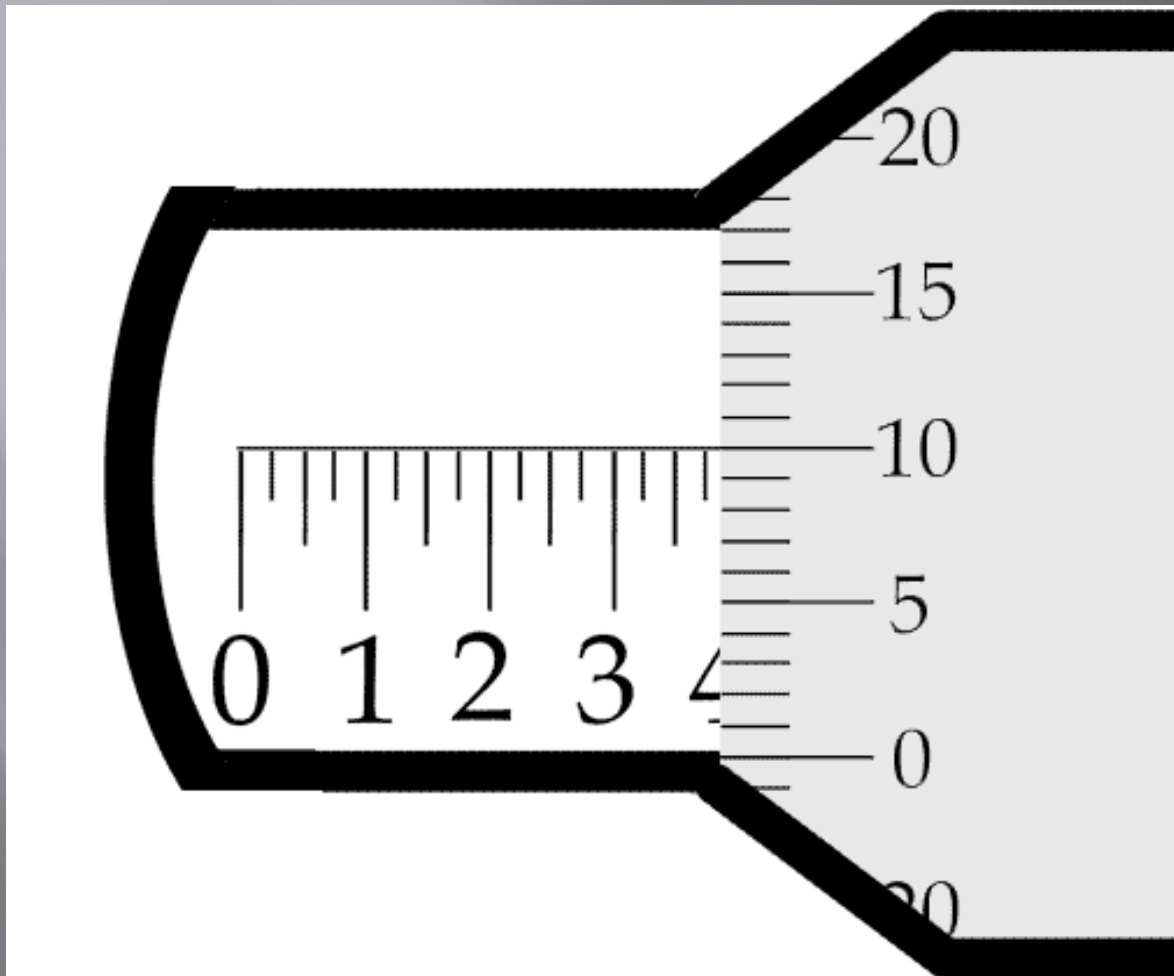
- ▣ As the thimble rotates add the pennies to the dollars and quarters.



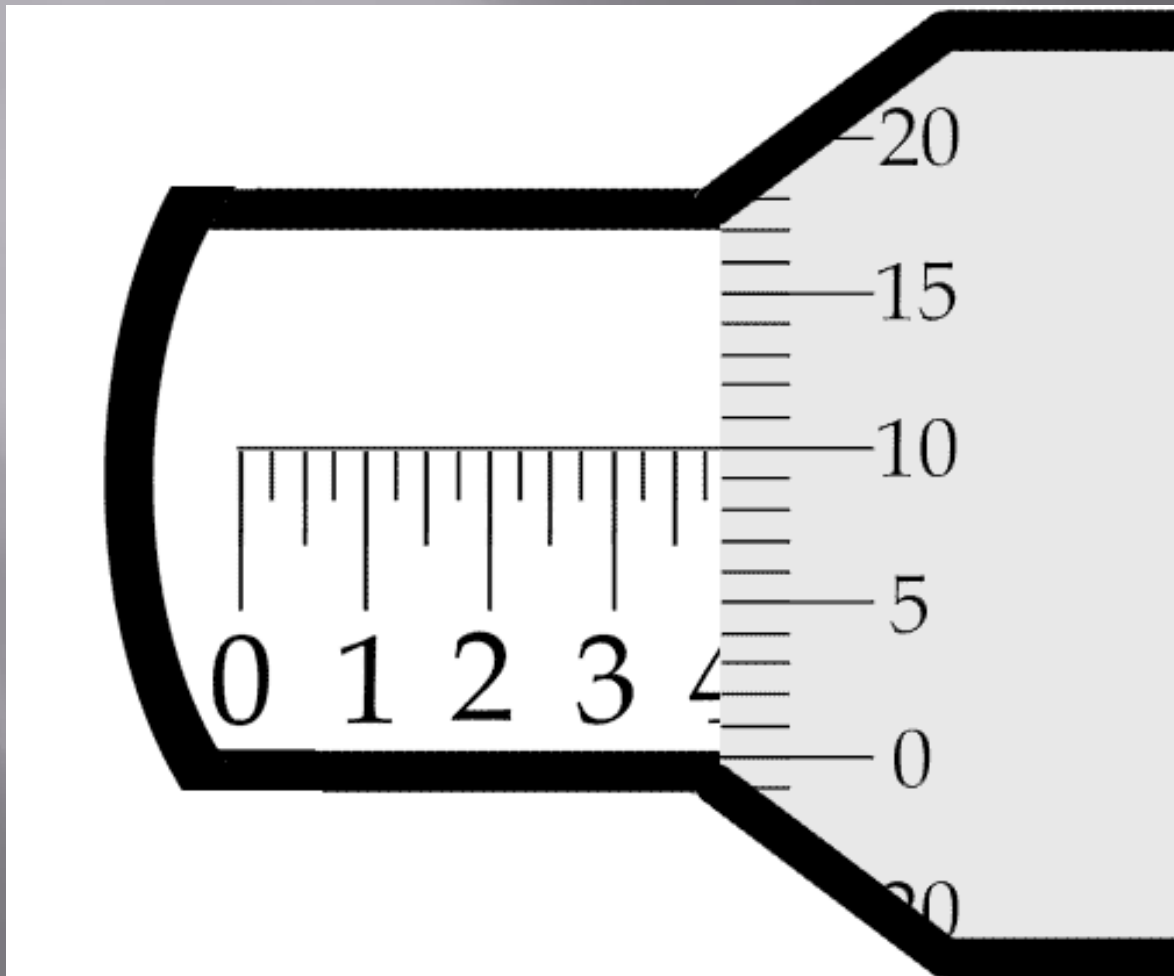
Reading the sleeve we get \$3.25 or .325 inch. Now add the pennies, or .001 to the sleeve measurement.

.326 inch

# What is the measurement?

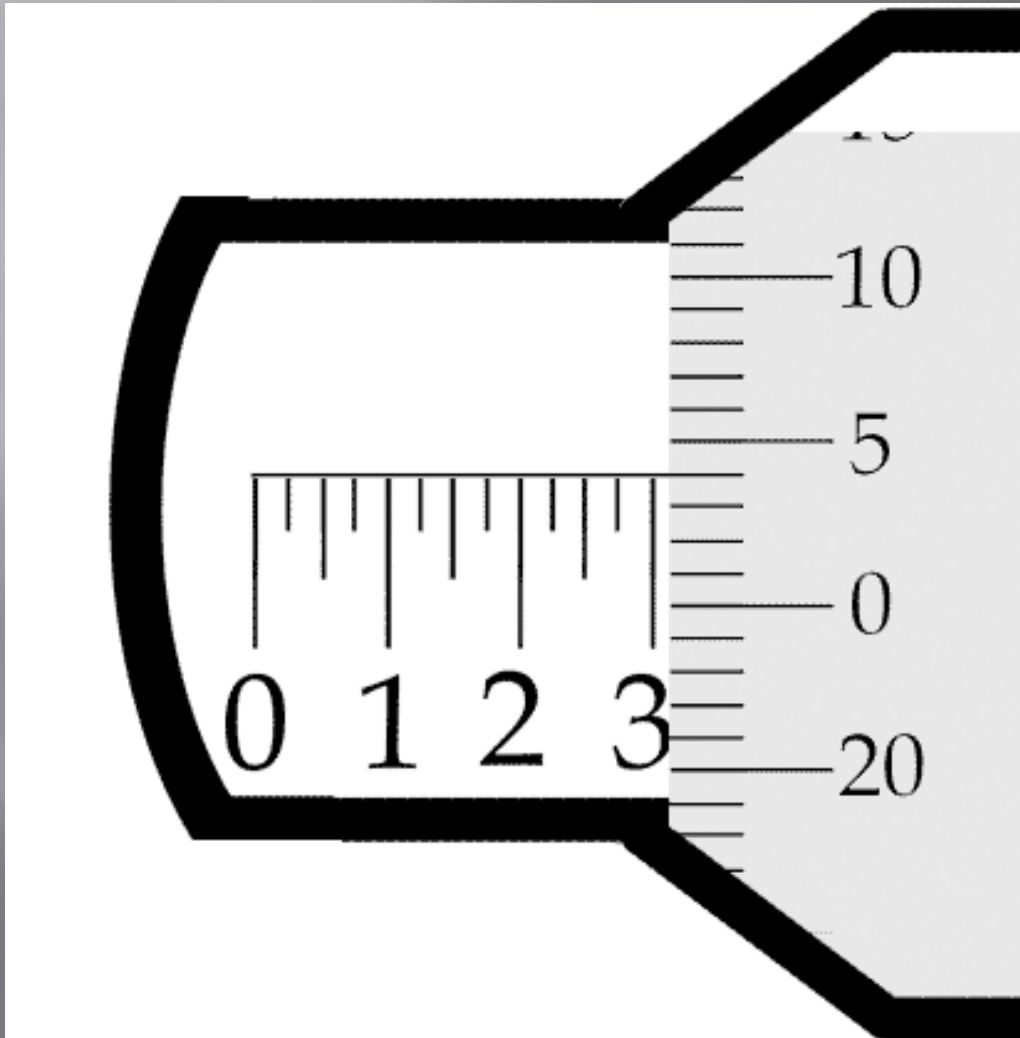


# What is the measurement?

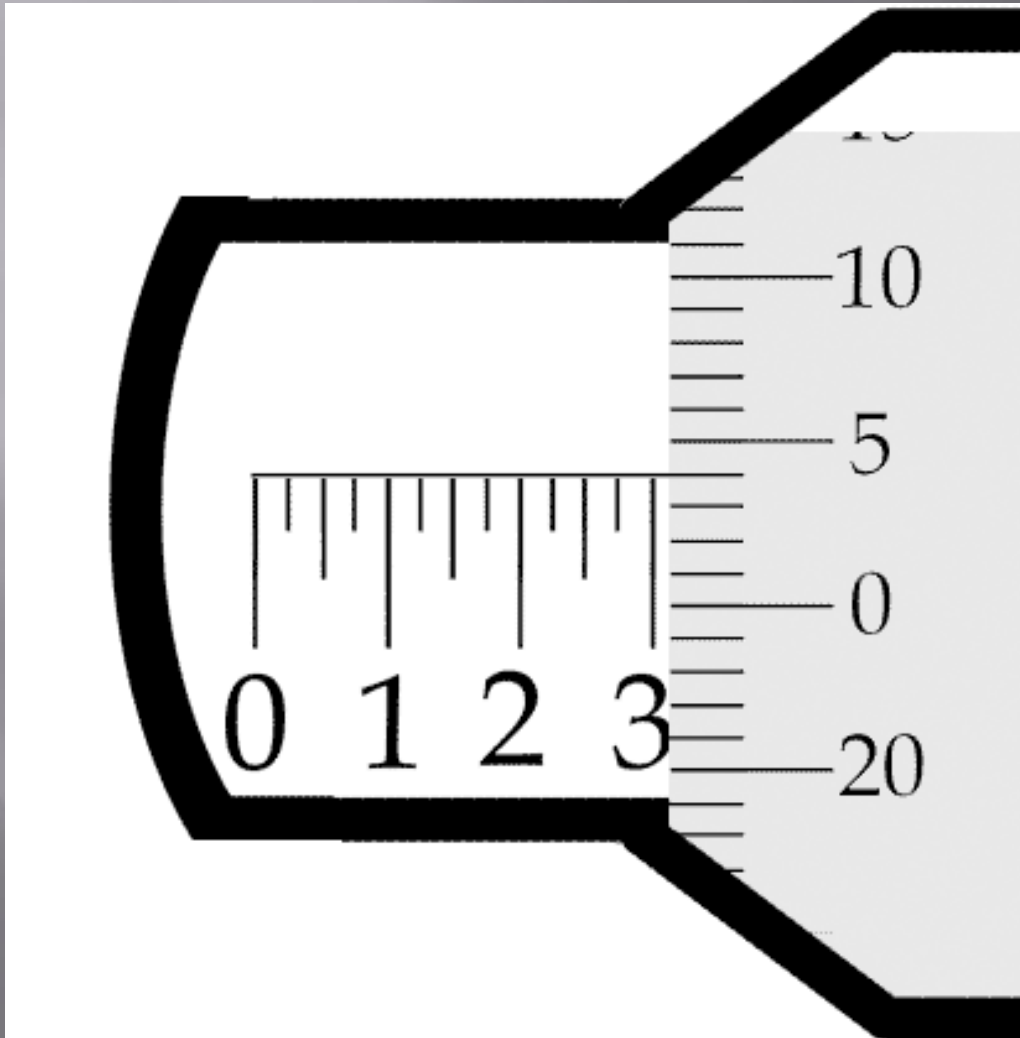


$\$3.75 + .10$   
or  
0.385 inches

# What is the measurement?



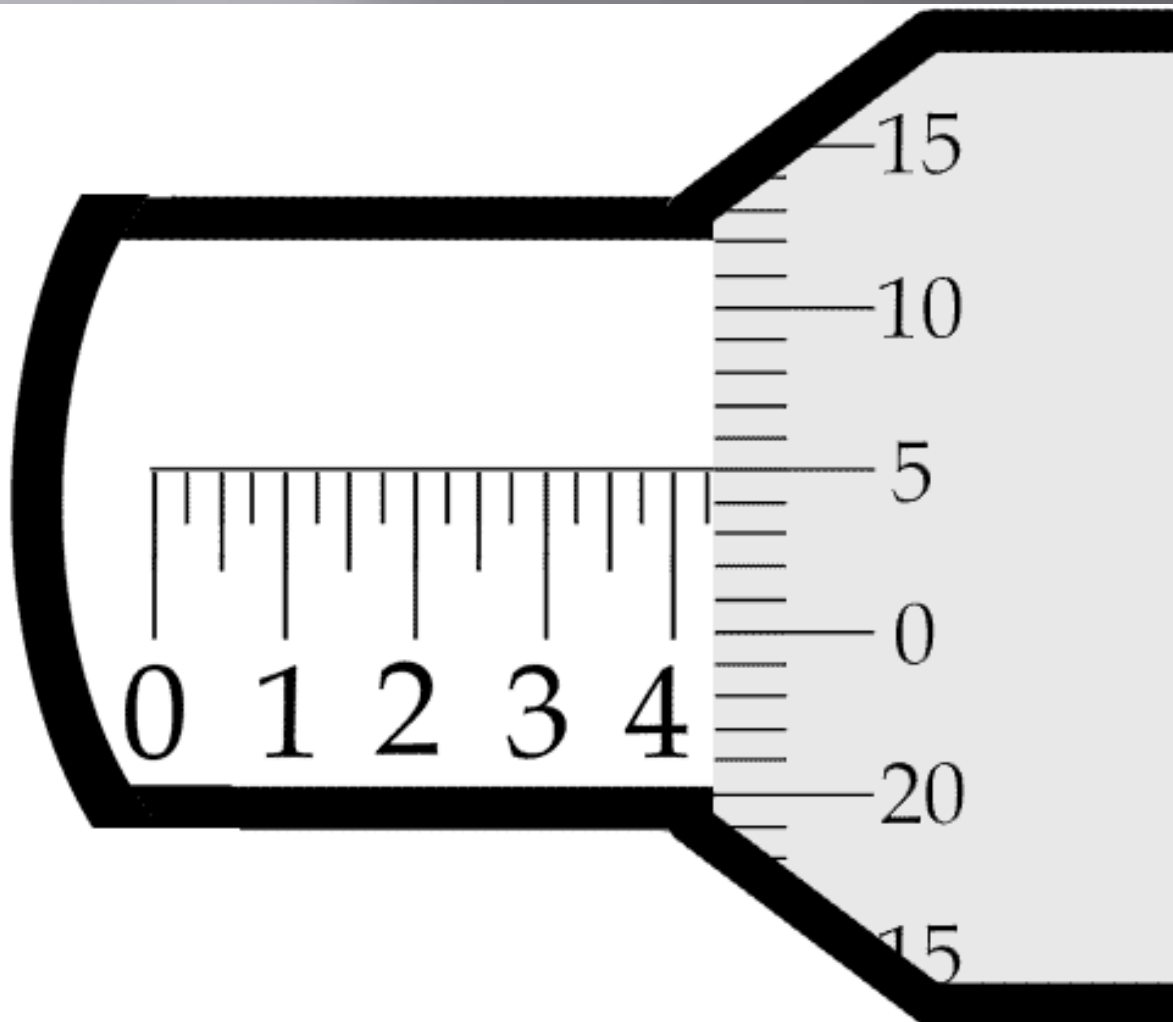
# What is the measurement?



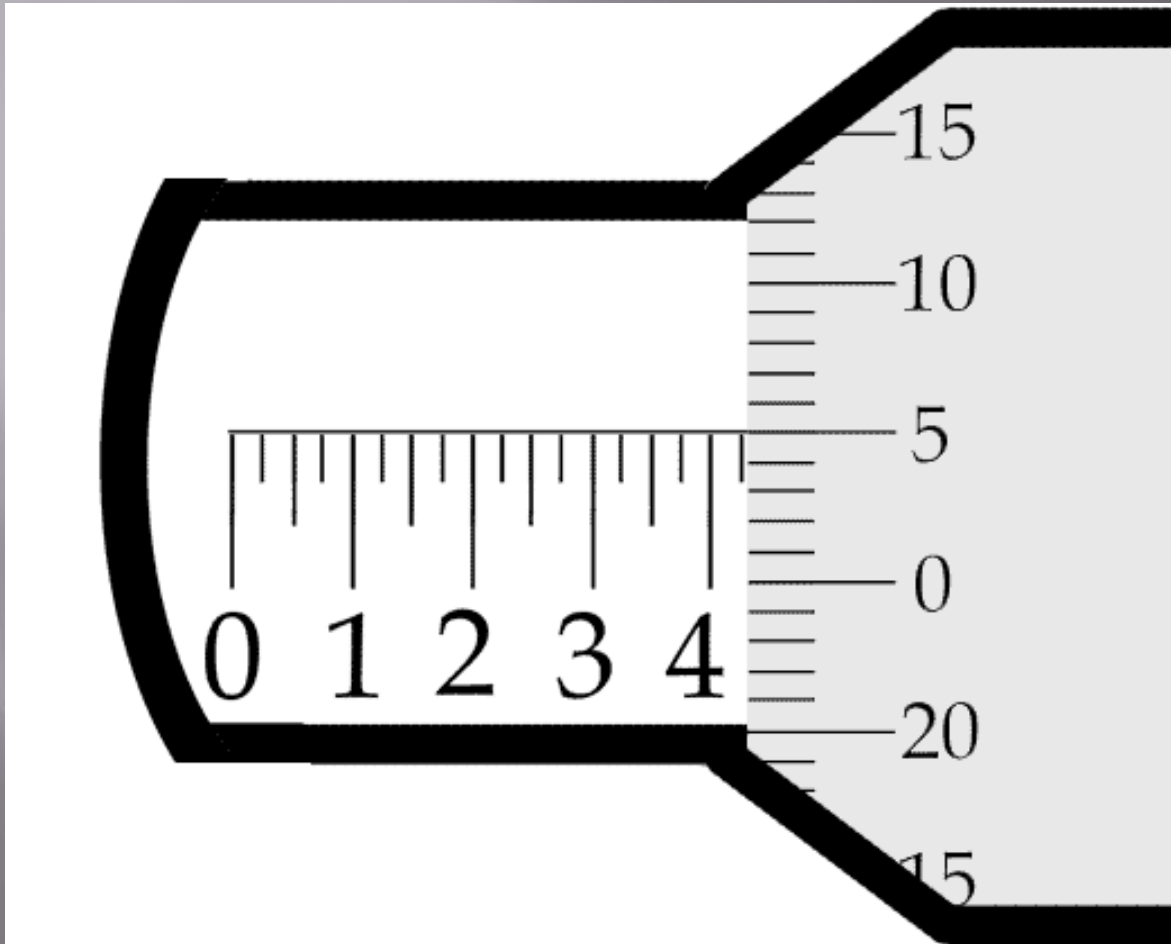
$\$3.00 + .04$   
or  
0.304 inches



# What is the measurement?

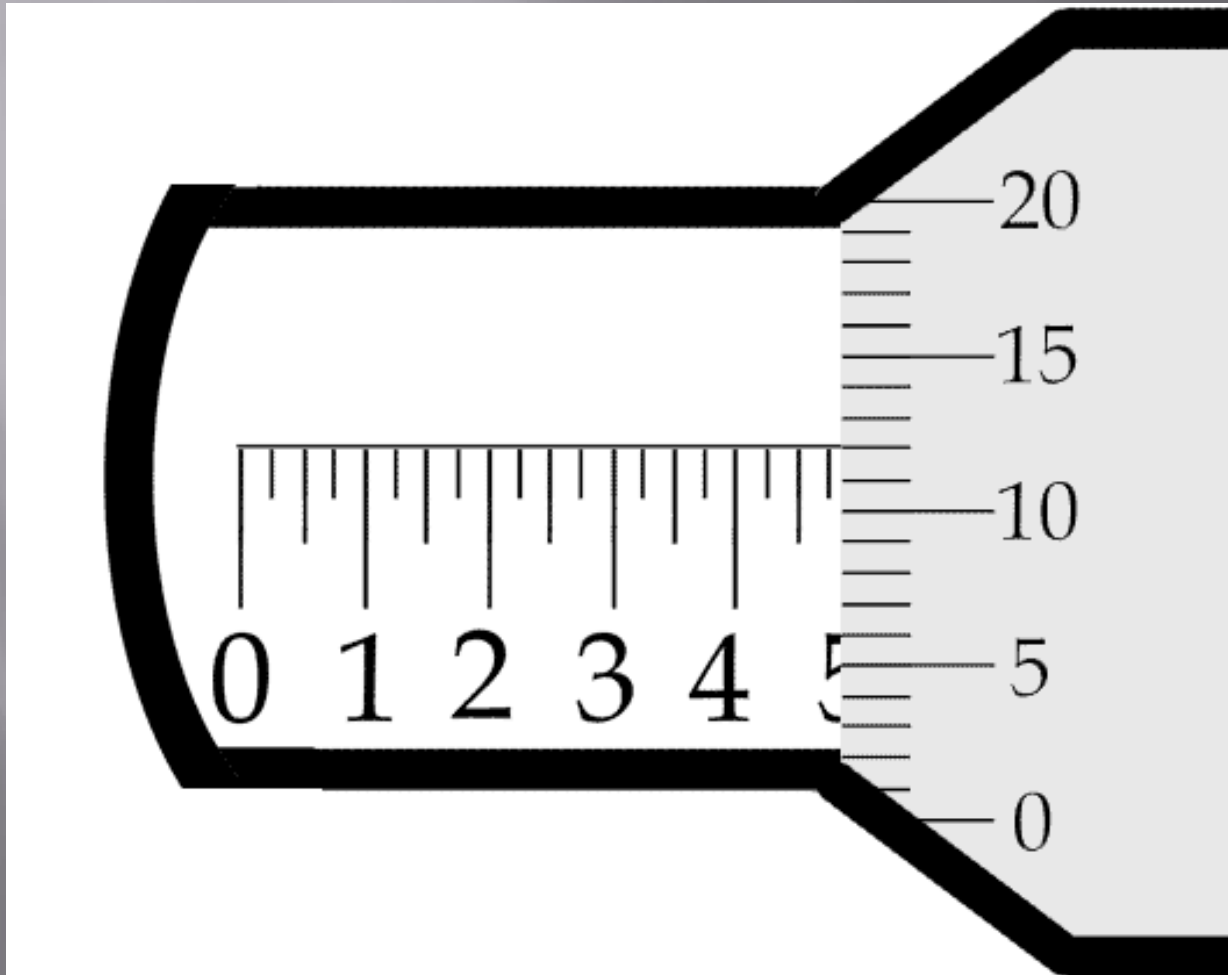


# What is the measurement?

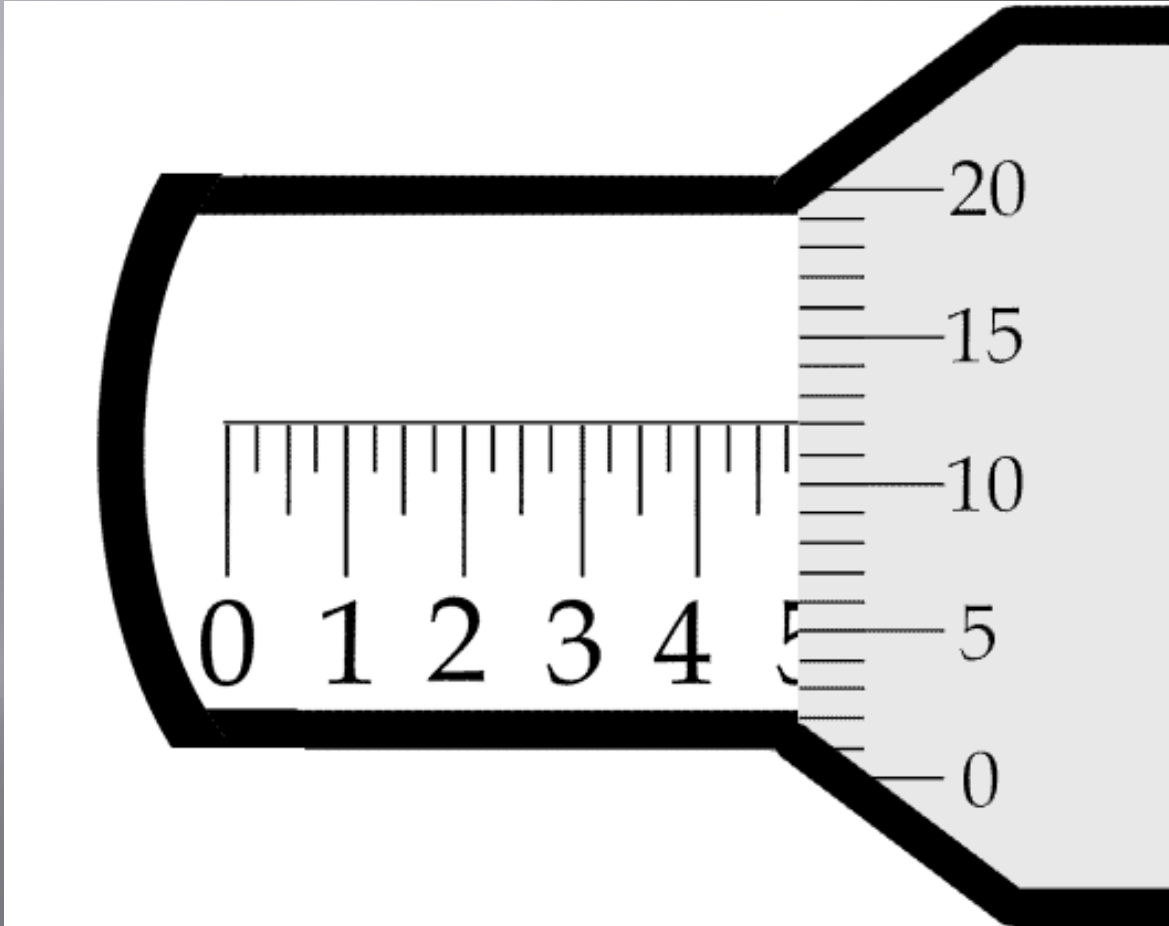


$\$4.25 + .05$   
or  
0.430 inches

# What is the measurement?



# What is the measurement?



$\$4.75 + .12$   
or  
0.487 inches

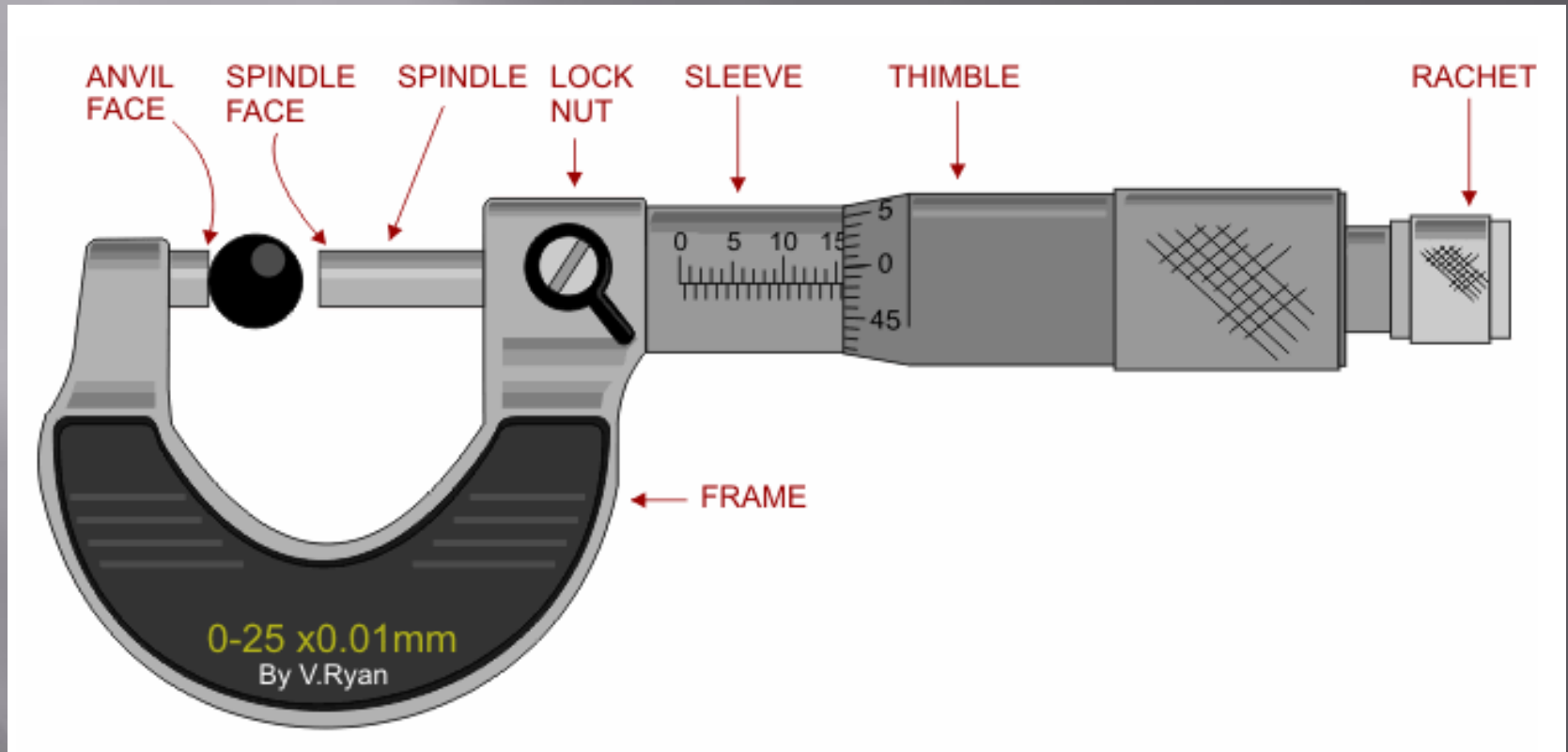
# Practice

Reading a micrometer gets easier with practice!



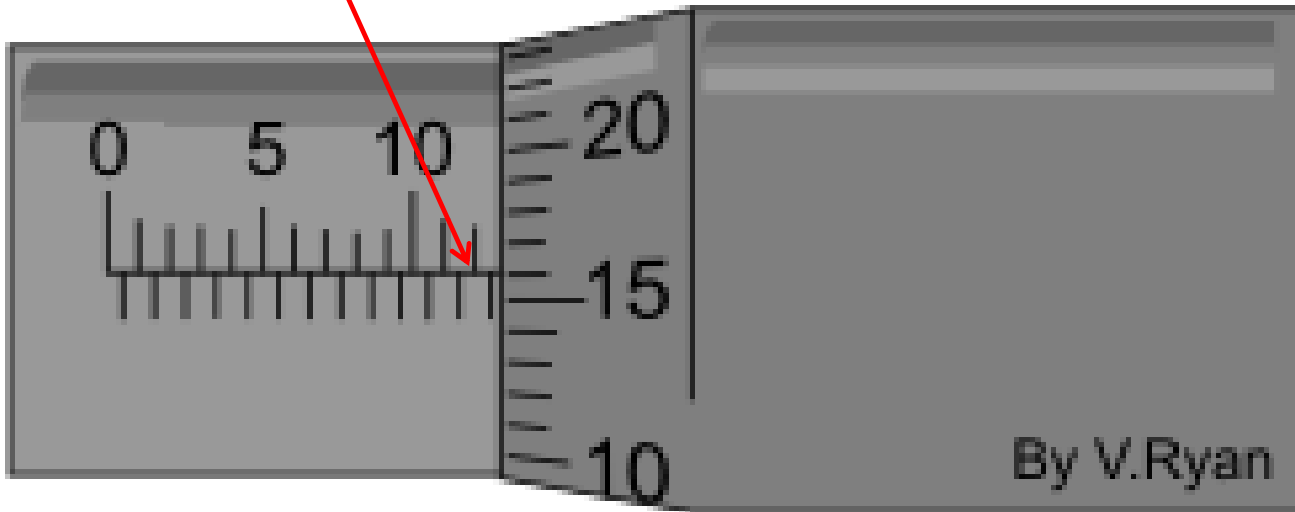
# METRIC MICROMETERS

# Parts of a Metric Micrometer



# Reading

12 mm

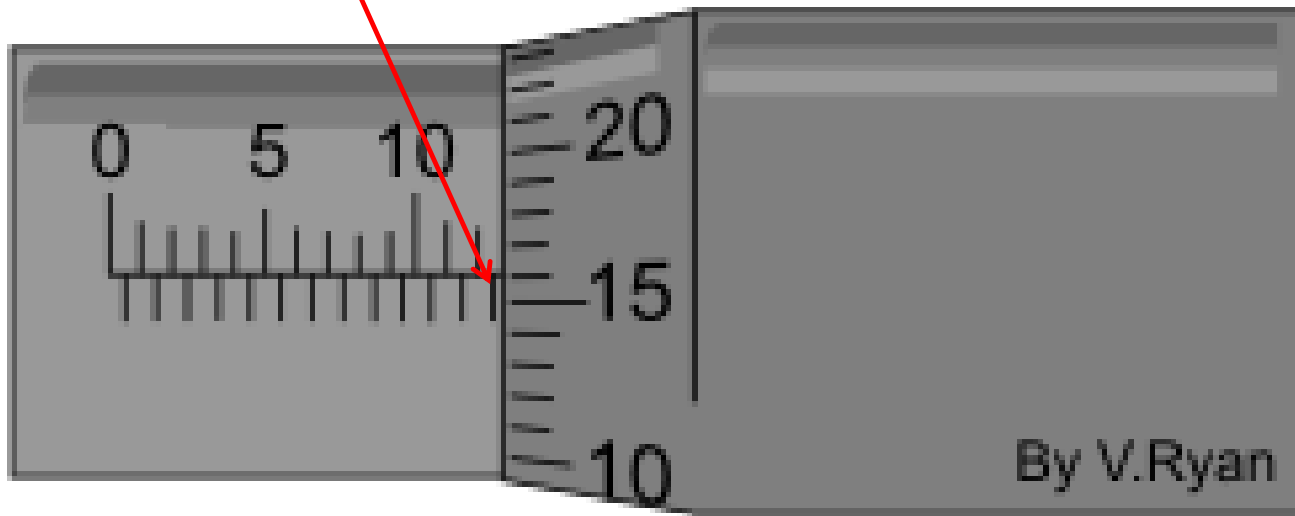


Read the scale on the sleeve, these are full mm.



# Reading

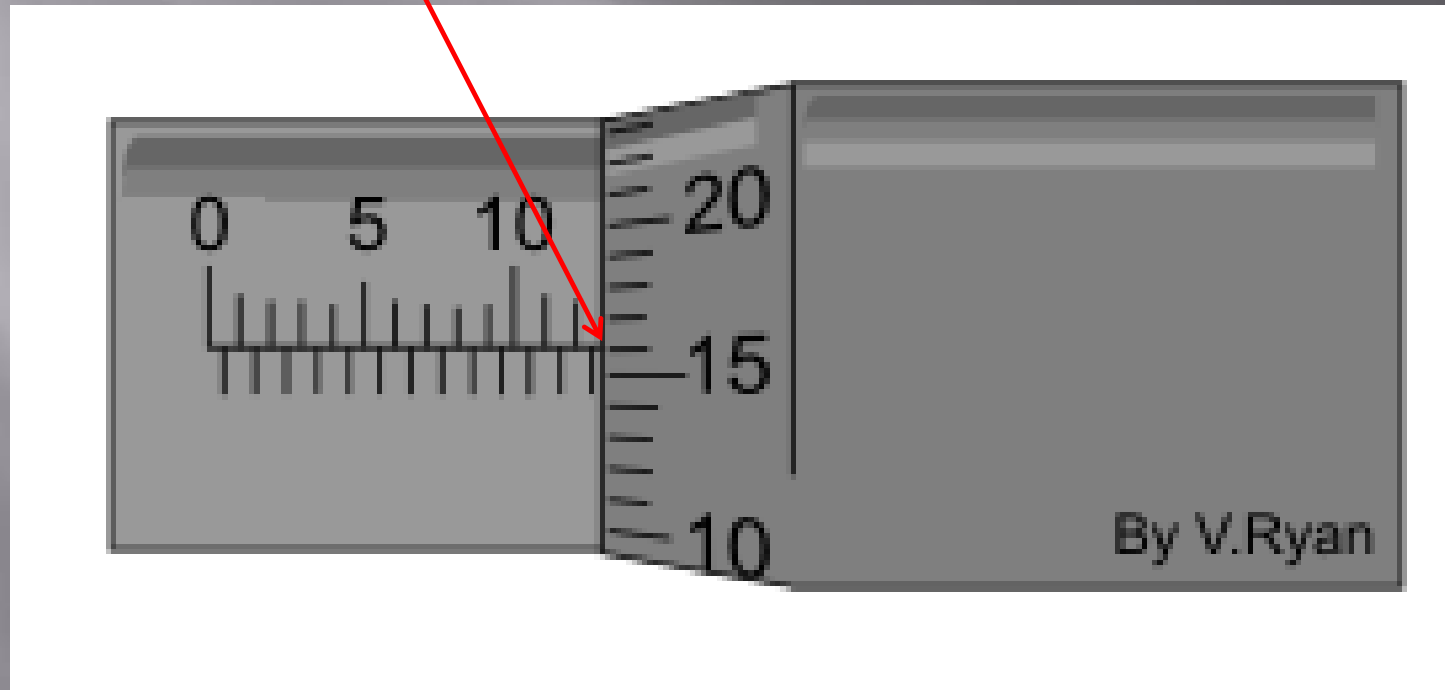
$$12\text{mm} + 0.5\text{mm} = 12.5\text{ mm}$$



Still reading the scale on the sleeve, a further  $\frac{1}{2}$  mm can be seen on the scale below the full mm scale. Our measurement is now 12.5 mm.

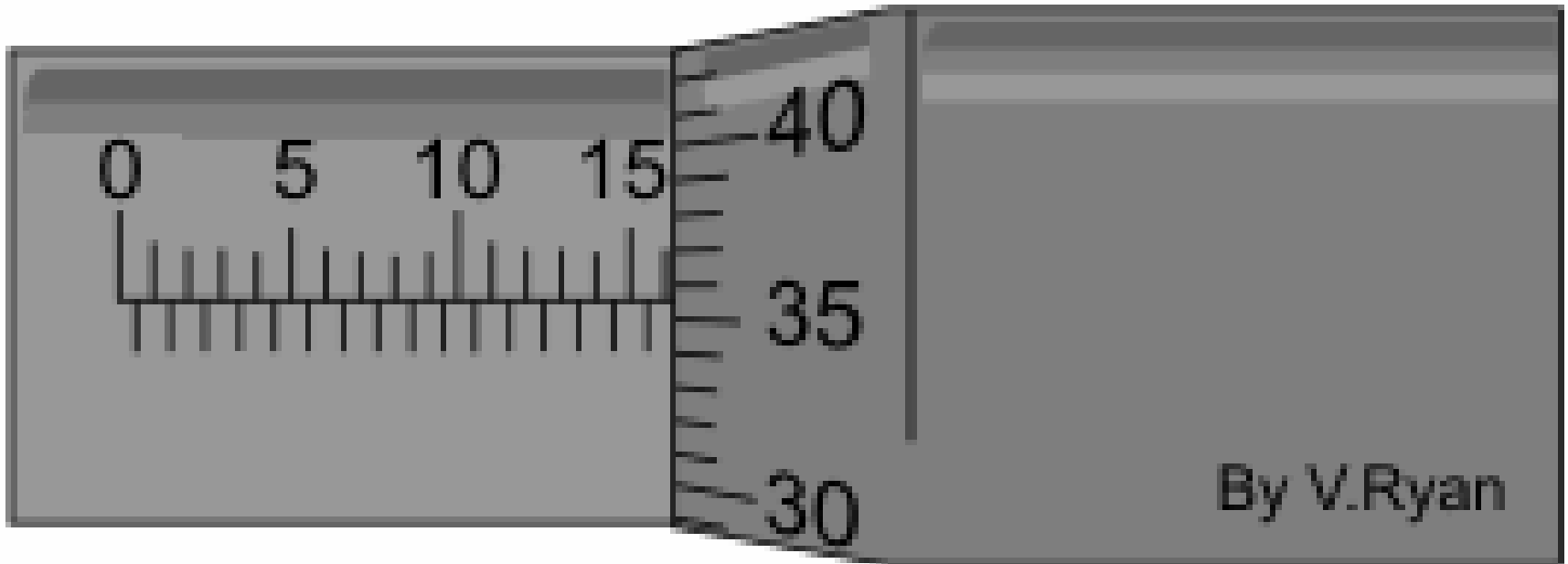
# Reading

$$12\text{mm} + 0.5\text{mm} + 0.16\text{mm} = 12.66\text{ mm}$$

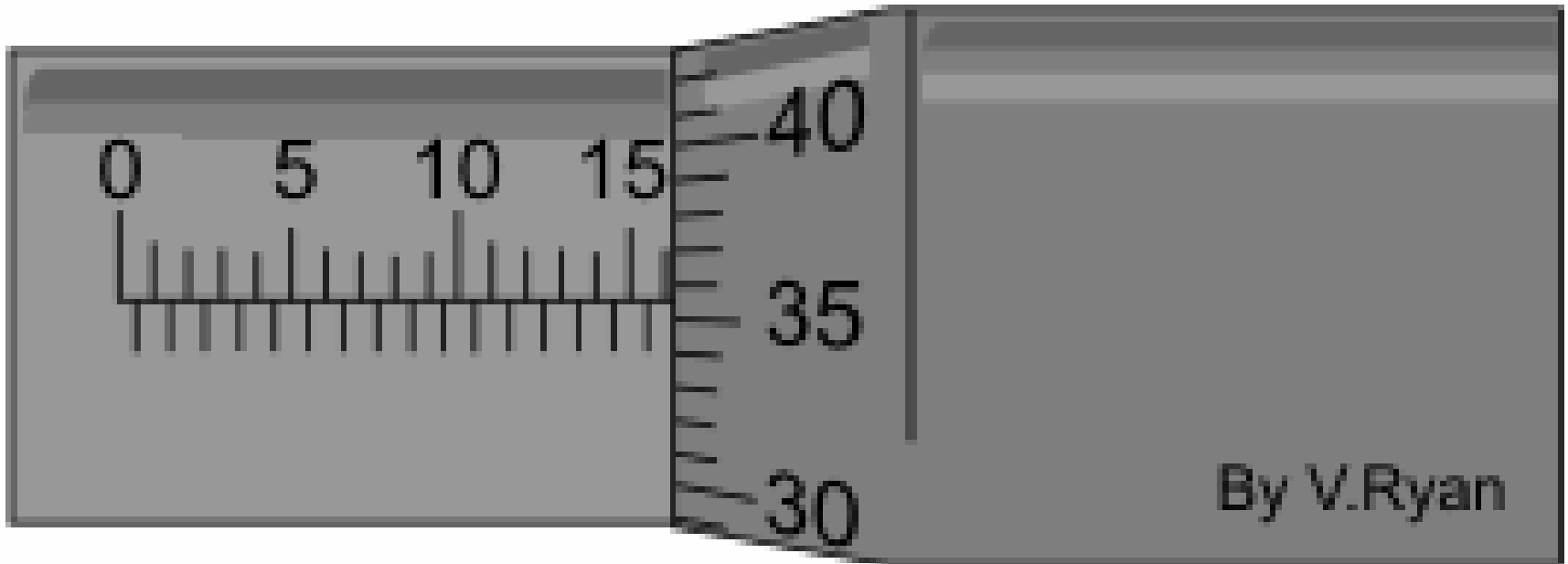


Finally, the thimble scale shows 16 full divisions (these are hundredths of a mm). Our measurement is now 12.66 mm.

# Let's Try Another

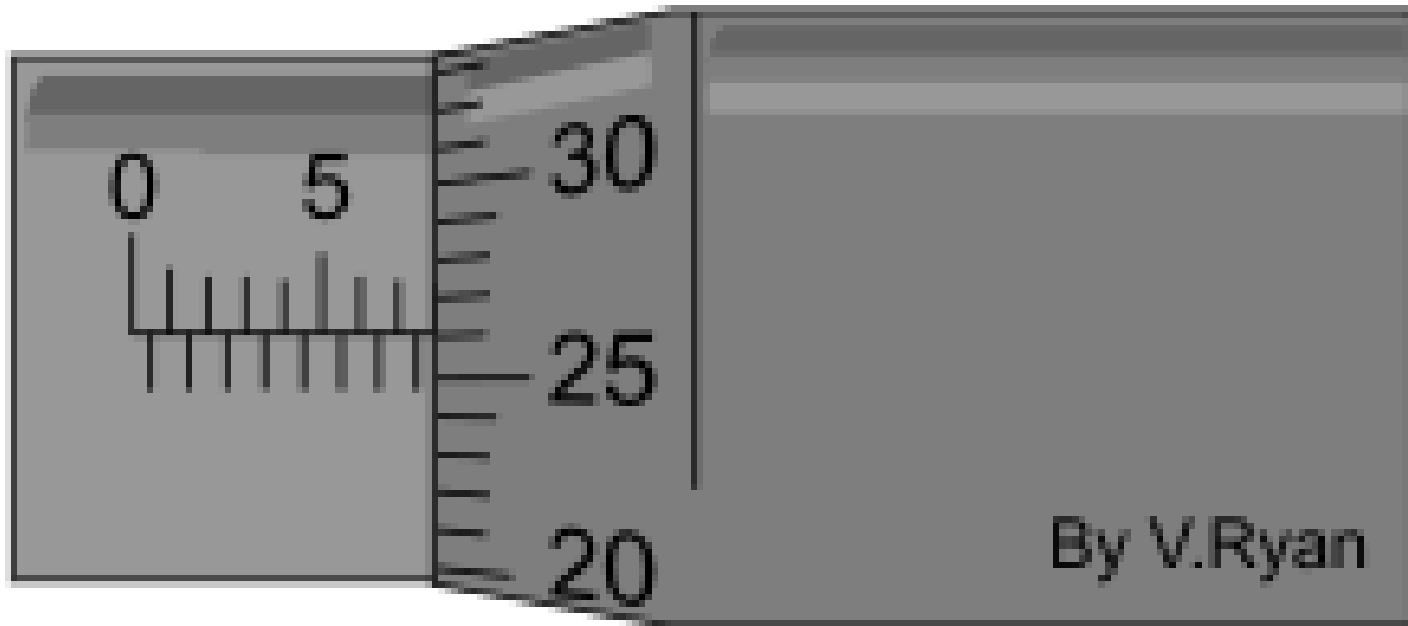


# Let's Try Another

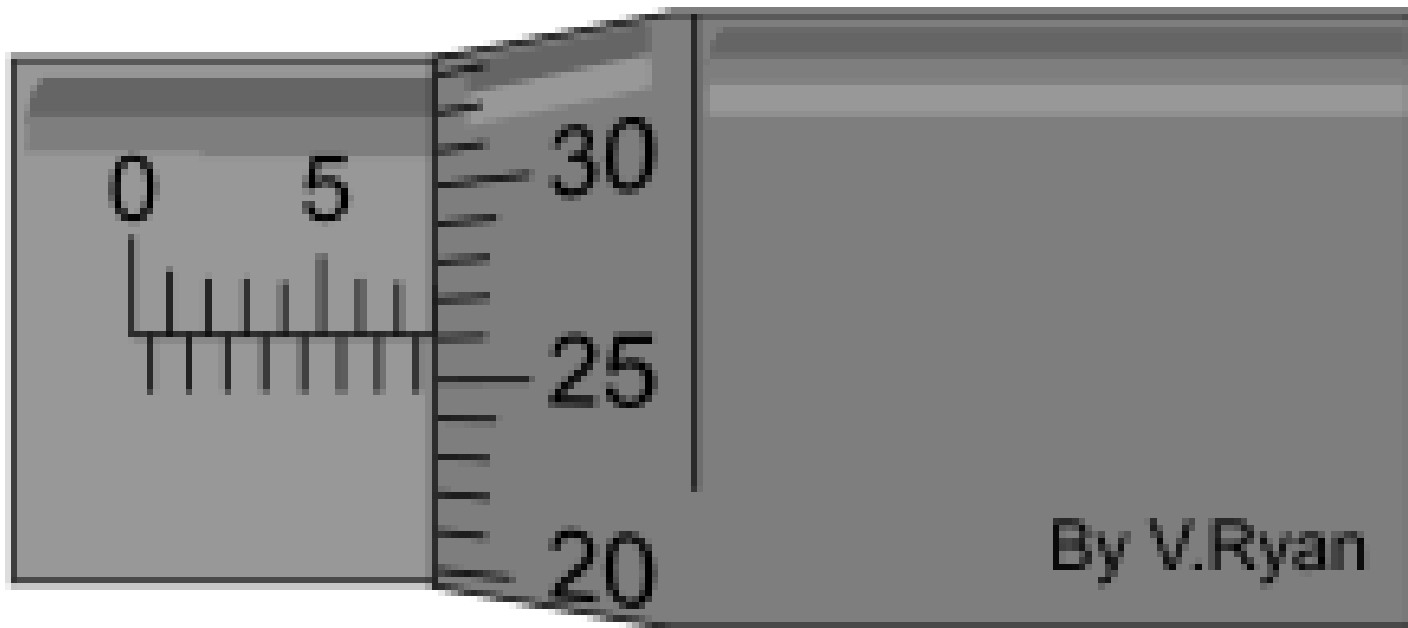


$$16 + .35 = 16.35 \text{ mm}$$

# On Your Own



# On Your Own



$$7 + 0.5 + 0.26 = 7.76 \text{ mm}$$