

LESSON **1-2** Linear Measure

**Bell Ringer #3:**

1. Name a line that contains point X.

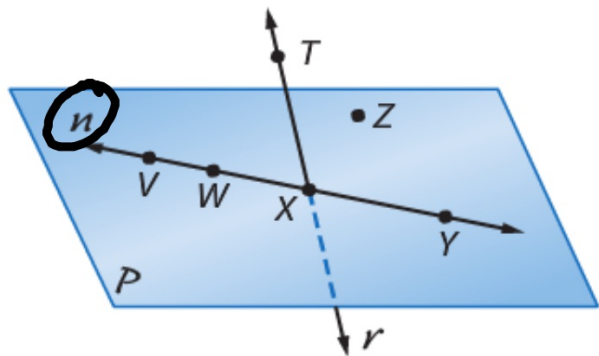
line  $n$

2. Name a Plane that contains point Z.

Plane  $P$

3. At What type of geometric figure do line  $r$  and plane  $P$  intersect?

point



????Homework Questions????

Unlike a line, a **line segment**, or *segment*, can be measured because it has two endpoints. A segment with endpoints A and B can be named as  $\overline{AB}$  or  $\overline{BA}$ . The *measure* of  $\overline{AB}$  is written as AB.

## EXAMPLE 1

## Length in Metric Units

A. Find the length of  $\overline{AB}$  using the ruler.



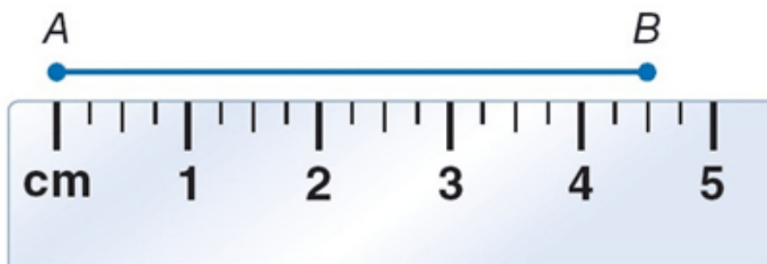
42 mm

42.0mm

**EXAMPLE 1**

## Length in Metric Units

**B.** Find the length of  $\overline{AB}$  using the ruler.



4.5 cm

**EXAMPLE 2**

## Length in Standard Units

A. Find the length of  $\overline{DE}$ .

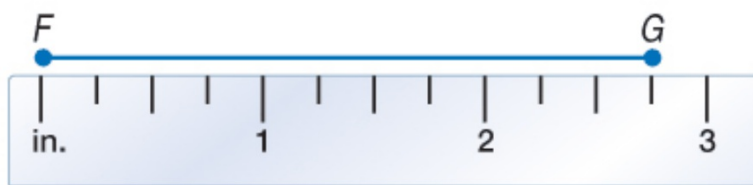


3 in

## EXAMPLE 2

## Length in Standard Units

B. Find the length of  $\overline{FG}$ .



$$2.75 \text{ in}$$

$$2 \frac{3}{4} \text{ in}$$

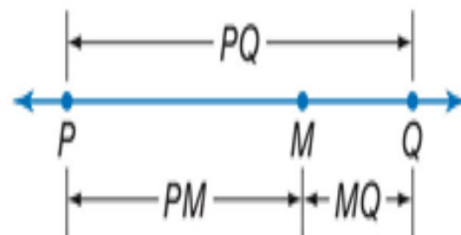
## LESSON 1-2 Linear Measure

### KeyConcept Betweenness of Points

#### Words

Point  $M$  is **between** points  $P$  and  $Q$  if and only if  $P$ ,  $Q$ , and  $M$  are collinear and  $PM + MQ = PQ$ .

#### Model





**EXAMPLE 3****Find Measurements by Adding**

Find  $XZ$ . Assume that the figure is not drawn to scale.

$$\begin{aligned}4 \text{ in} + 2 \text{ in} \\ = 6 \text{ in}\end{aligned}$$

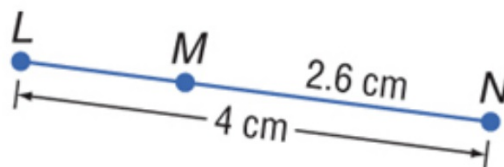


**EXAMPLE 4****Find Measurements by Subtracting**

Find  $LM$ . Assume that the figure is not drawn to scale.

$$\begin{array}{r} LM + 2.6 = 4 \\ -2.6 \quad -2.6 \\ \hline \end{array}$$

$$\begin{aligned} LM &= 4 - 2.6 \\ &= 1.4 \text{ cm} \end{aligned}$$



**EXAMPLE 5** Write and Solve Equations to Find Measure

Find the value of  $x$  and  $ST$  if  $T$  is between  $S$  and  $U$ ,  
 $ST = 7x$ ,  $SU = 45$ , and  $TU = 5x - 3$ .

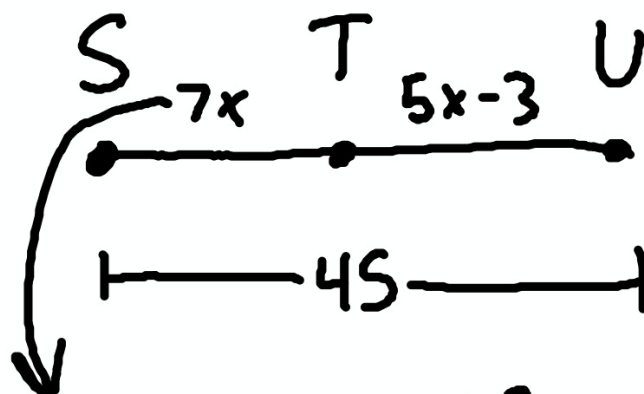
$$7x + 5x - 3 = 45$$

$$12x - 3 = 45$$

$$+3 \quad +3$$

$$12x = 48$$

$$x = \frac{48}{12} = 4$$



$$7 \cdot 4 = 28 \quad 5 \cdot 4 - 3 = 17$$

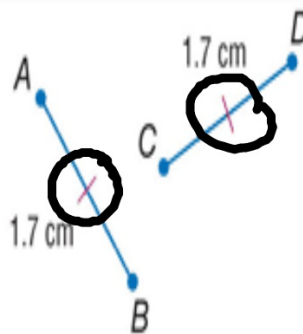
$$28 + 17 = 45$$

 Key Concept Congruent Segments

Words Congruent segments have the same measure.

Symbols  $\cong$  is read *is congruent to*. Red slashes on the figure also indicate congruence.

Example  $\overline{AB} \cong \overline{CD}$



LESSON **1-2** Linear Measure

You can either work on your own or with 1 to 2 other people near you.

Complete Skills Practice 1-2, problems # 1-12 all.

$$5x = 25 \quad x = \frac{25}{5} = 5$$

You will have 10 minutes to complete.

## Assignment

Practice 1-2, problems # 1-11 all.

