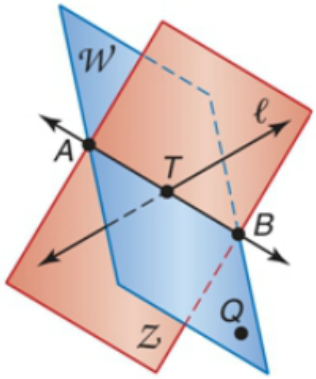
5-Minute Check Over Lesson 1–1



1 Name three collinear points.

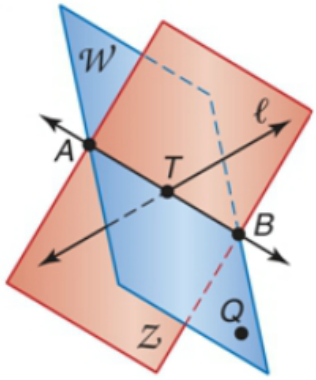
A. *A, B, Q*

B. *B, Q, T*

C. *A, B, T*

D. *T, A, Q*

5-Minute Check Over Lesson 1–1



2 What is another name for $\overleftrightarrow{AB}$?

A. $\overleftrightarrow{AA}$

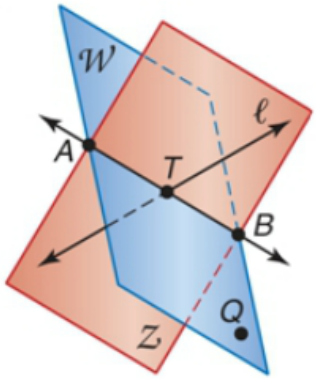
B. $\overleftrightarrow{AT}$

C. $\overleftrightarrow{BQ}$

D. $\overleftrightarrow{QB}$

5-Minute Check Over Lesson 1–1

4 Name the intersection of planes *Z* and *W*.



A. $\overleftrightarrow{BZ}$

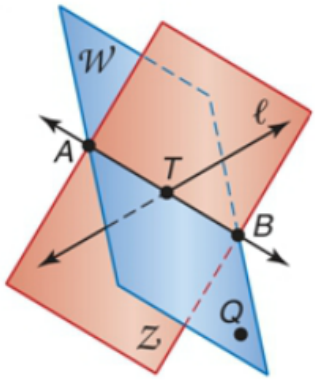
B. $\overleftrightarrow{AW}$

C. $\overleftrightarrow{AB}$

D. $\overleftrightarrow{BQ}$

5-Minute Check Over Lesson 1–1

5 How many lines are in plane *Z*?



A. 2

B. 4

C. 6

D. infinitely many

5-Minute Check Over Lesson 1–1

Standardized Test Practice

6 Which of the following statements is always *false*?

A. The intersection of a line and a plane is a point.

B. There is only one plane perpendicular to a given plane.

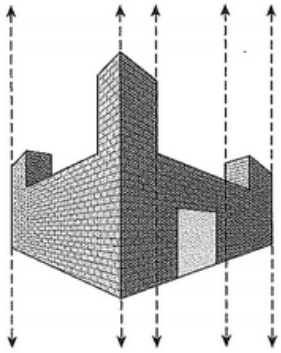
C. Collinear points are also coplanar.

D. A plane contains an infinite number of points.

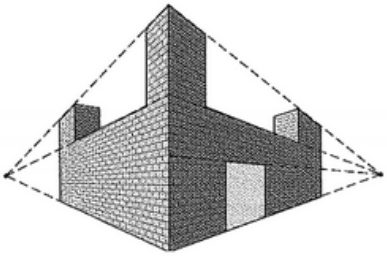
Lesson 1-1

1. Sample answer: m 3. B 5. plane
7. Sample answer: 9. Sample answer:

51a. Sample answer:

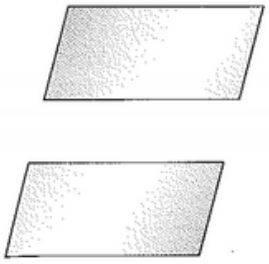


51b.

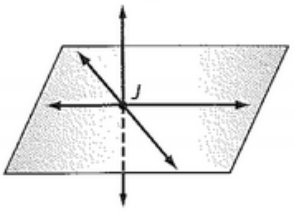


51c. Sample answer: They get closer together.
53. Sample answer: The airplanes are in different horizontal planes.

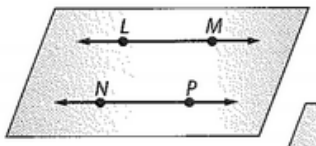
25. two planes intersecting in a line 27. point
29. line 31. intersecting planes
33. Sample answer:



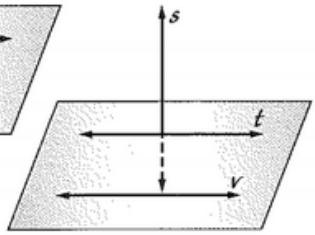
35. Sample answer:



37. Sample answer:



39. Sample answer:



41. edges 43. Sample answer: M and N

45. The planes appear to be parallel. Since they do not have any lines in common, they do not intersect.

47. No; V does not lie in the same plane.

49. a. The intersection between the signs and the pole is represented by a point. b. The two planes intersect in a line.

LESSON 1–2 Linear Measure

Then

You identified and modeled points, lines, and planes.

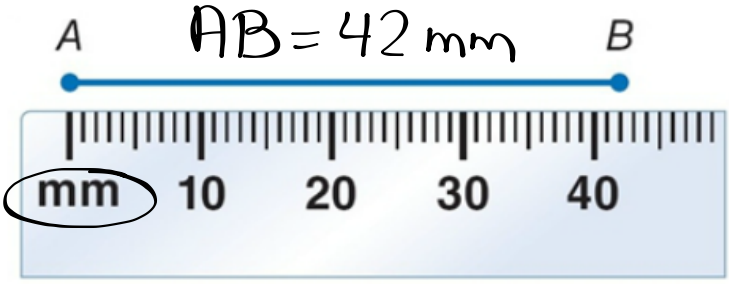
Now

- Measure segments.
- Calculate with measures.

Unlike a line, a **Line segment**, can be measured because it has two end points.

EXAMPLE 1 Length in Metric Units

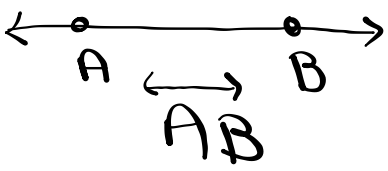
A. Find the length of $\overline{AB}$ using the ruler.



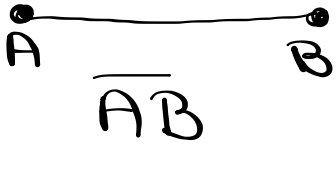
metric – decimals

inches – fractions

Lines

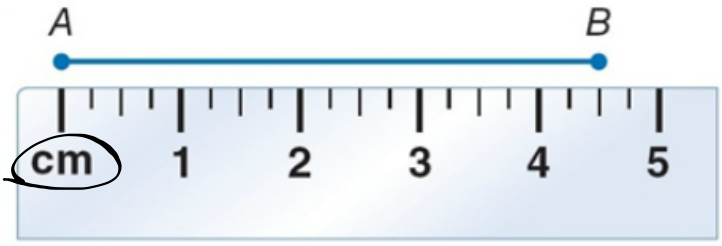


Line Segments



EXAMPLE 1 Length in Metric Units

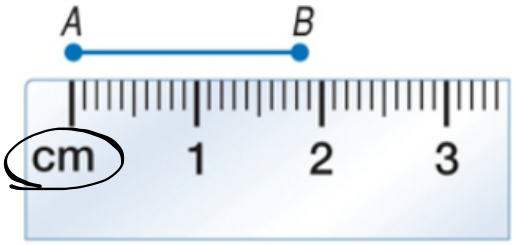
B. Find the length of $\overline{AB}$ using the ruler.



AB = 4.5 cm

EXAMPLE 1 Check Your Progress

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

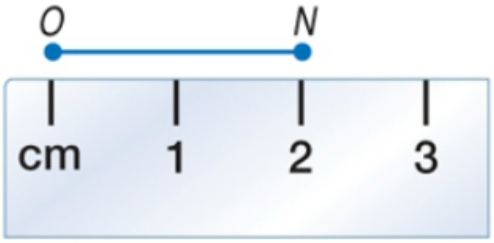


AB = 1.8cm = 18mm

A. ~~2 mm~~
B. ~~1.8 mm~~
C. 18 mm
D. ~~20 mm~~

EXAMPLE 1 Check Your Progress

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



A. 1 cm

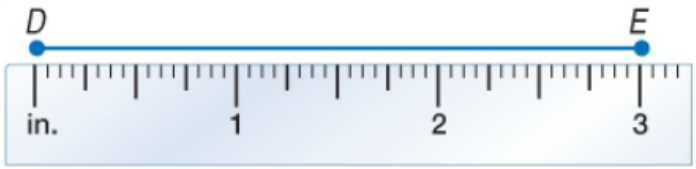
B. 2 cm

C. 2.5 cm

D. 3 cm

EXAMPLE 2 Length in Standard Units

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



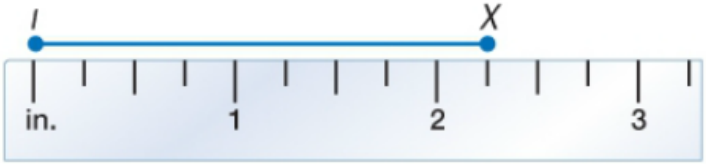
EXAMPLE 2 Length in Standard Units

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

$FG = 2\frac{3}{4}$ in

EXAMPLE 2 Check Your Progress

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



A. $2\frac{1}{2}$ in.

B. 2 in.

C. $2\frac{1}{4}$ in.

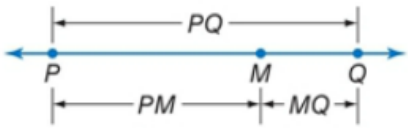
D. $2\frac{3}{4}$ in.

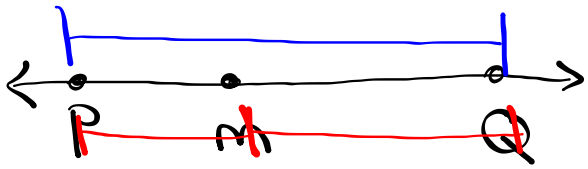
KeyConcept Betweenness of Points

Words

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

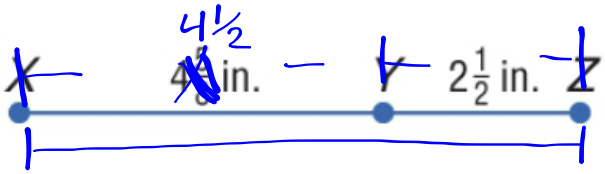
Model





EXAMPLE 3 Find Measurements by Adding

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



$XY + YZ = XZ$

$4\frac{1}{2} + 2\frac{1}{2} = XZ$

$7 \text{ in} = XZ$

EXAMPLE 3 Check Your Progress

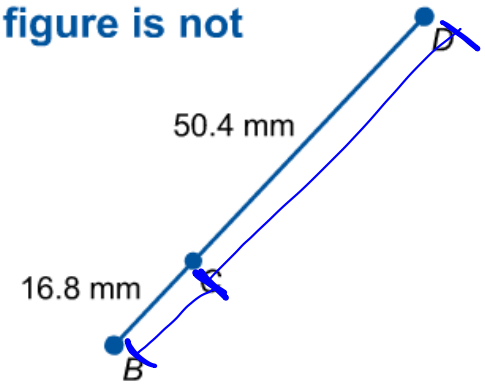
Find *BD*. Assume that the figure is not drawn to scale.

A. 16.8 mm

B. 57.4 mm

C. 67.2 mm

D. 84 mm

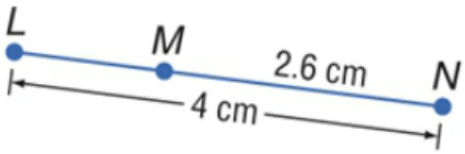


$BC + CD = BC$

$16.8 + 50.4$

EXAMPLE 4 Find Measurements by Subtracting

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



$LM + MN = LN$

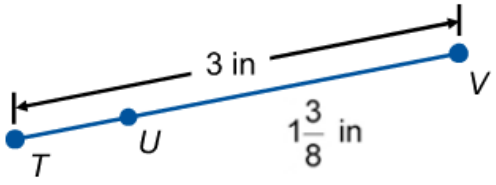
$LM + 2.6 = 4$

$-2.6 \quad -2.6$

$LM = 1.4$ cm

EXAMPLE 4 Check Your Progress

Find *TU*. Assume that the figure is not drawn to scale.



A. $1\frac{3}{8}$ in.

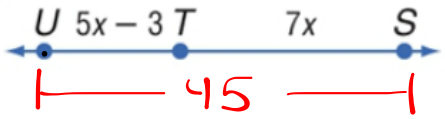
B. $1\frac{5}{8}$ in.

C. $2\frac{1}{8}$ in.

D. $2\frac{5}{8}$ in.

EXAMPLE 5 Write and Solve Equations to Find Measurements

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



$ST + TU = SU$

$7x + 5x - 3 = 45$

$12x - 3 = 45$

$+3 \quad +3$

$12x = 48$

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

$x = 4$

$ST = 7x$

$ST = 7(4)$

$ST = 28$ units

EXAMPLE 5 Check Your Progress

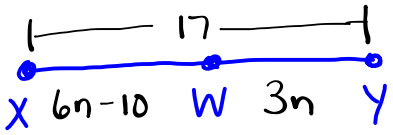
ALGEBRA Find the value of n and WX if W is between X and Y, $WX = 6n - 10$, $XY = 17$, and $WY = 3n$.

A. $n = 3$; $WX = 8$

B. $n = 3$; $WX = 9$

C. ~~$n = 9$; $WX = 27$~~

D. ~~$n = 9$; $WX = 44$~~



$XW + WY = XY$

$6n - 10 + 3n = 17$

$9n - 10 = 17$

$+10 \quad +10$

$\frac{9n}{9} = \frac{27}{9}$ $n = 3$

$WX = 6n - 10$

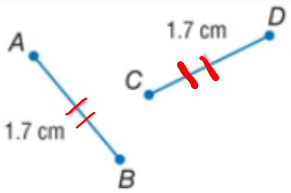
$6(3) - 10$

$18 - 10$

$WX = 8$

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



Lengths are equal VS. Segments are congruent

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

To Do: 1.2 vocab wksht

p. 18 # 2-32 even