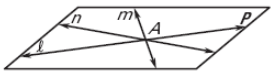
Answers for 1.1

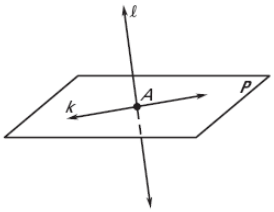
For use with pages 5–8

1.1 Skill Practice

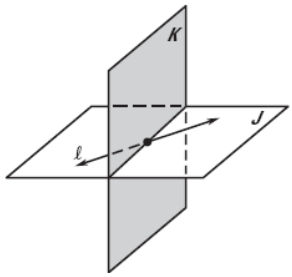
1. **a.** point Q
   b. line segment MN
   c. ray ST
   d. line FG
2. Yes; no; collinear points are points that lie on the same line, while coplanar points lie in the same plane but not necessarily on the same line.
3. $\overleftrightarrow{QW}$, line g
4. *Sample answer:* plane RTS
5. *Sample answer:* points R, Q, S; point T
6. point W
7. Yes; through any three points not on the same line, there is exactly one plane.
8. $\overline{YZ}$
9. $\overrightarrow{VY}$, $\overrightarrow{VX}$, $\overrightarrow{VZ}$, $\overrightarrow{VW}$
10. $\overrightarrow{VX}$ and $\overrightarrow{VW}$, $\overrightarrow{VY}$ and $\overrightarrow{VZ}$
11. $\overrightarrow{WX}$
12. Point V must lie between po W and Z, which means the tl points must be collinear.
13. B
14. *Sample:*



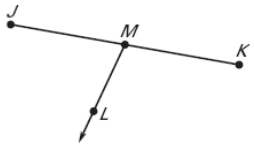
15. *Sample:*



16. A
17. point R
18. $\overleftrightarrow{FG}$
19. $\overleftrightarrow{RS}$
20. no; yes
21. yes; yes
22. *Sample answer:* plane PEF, plane PEH, plane HEF
23. *Sample:*



24. $\overrightarrow{AC}$ (or $\overrightarrow{AD}$), $\overrightarrow{AB}$ (or $\overrightarrow{AE}$), $\overrightarrow{DC}$ (or $\overrightarrow{DA}$), $\overrightarrow{EB}$ (or $\overrightarrow{EA}$), $\overrightarrow{CB}$, $\overrightarrow{BC}$, $\overrightarrow{CD}$, $\overrightarrow{CA}$; $\overrightarrow{CD}$ and $\overrightarrow{CA}$, $\overrightarrow{BA}$ and $\overrightarrow{BE}$
25. *Sample:*



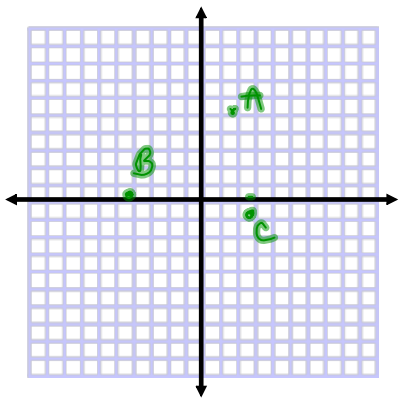
26. *Sample:*

Warm Up

1. Sketch two lines that lie in a plane but don't intersect.

2. Plot the points:

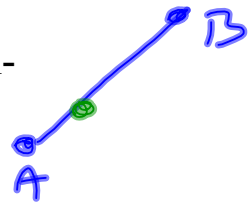
   A (2, 5) B (-4, 0) C (3, -1)



3. Solve: $3x + 5 + 2x - 4 = 36$

1-2 Segments and Congruence

Between-



a point is in between A and B if it is on $\overline{AB}$

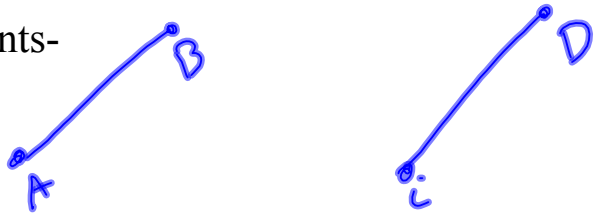
Segment Addition Postulate -

$AB + BC = AC$

Congruent Segments-

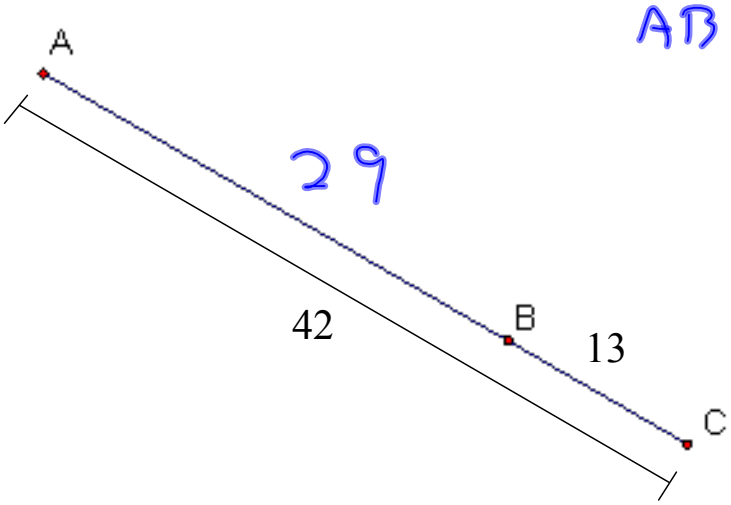
$AB = CD$

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

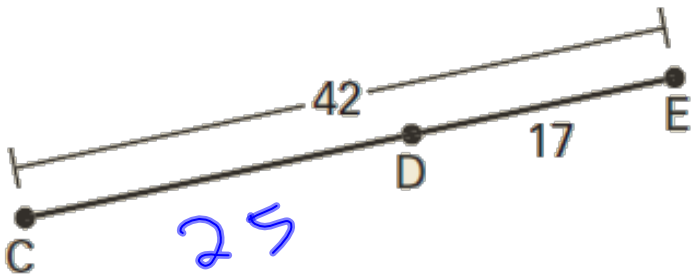


Ex. 1 Find *AB*

$AB = 29$



Ex. 2 Find *CD*



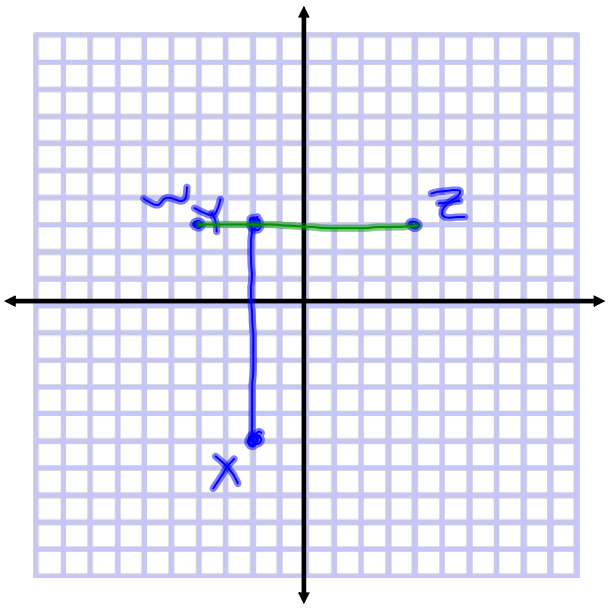
Ex. 3 Graph the points:

X(-2,-5), *Y*(-2,3), *W*(-4,3), and *Z*(4,3).

Are *XY* and *WZ* congruent?

yes

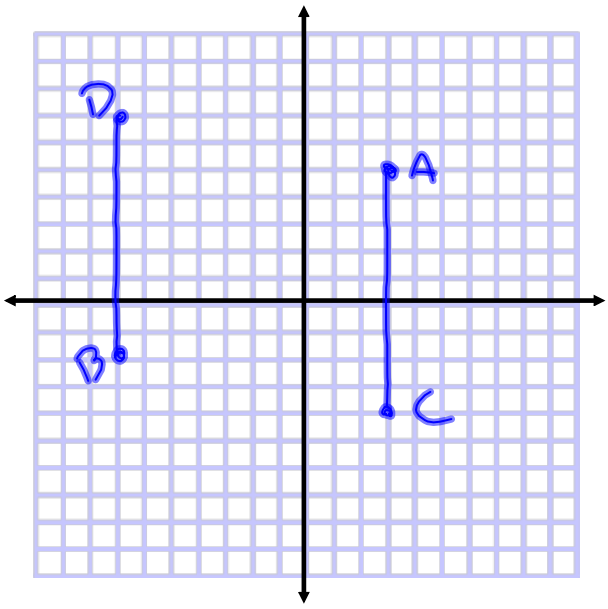
$\overline{XY} \cong \overline{WZ}$



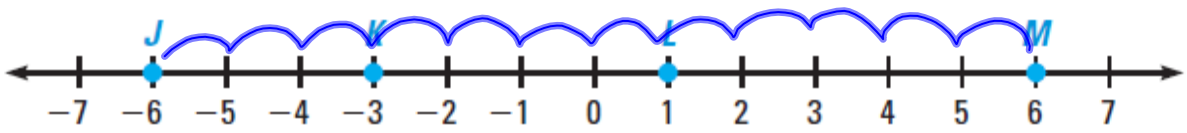
Ex. 4 Graph the points:

A(3, 5), *B*(-7, -2), *C*(3, -4), and *D*(-7, 7).

Are *AC* and *BD* congruent?



$\overline{AC} \cong \overline{BD}$



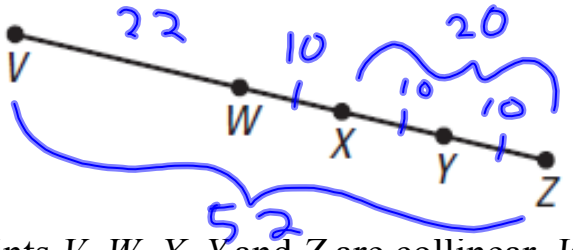
Ex. 5 Use the number line to find the indicated distance.

a. *JK* 3

b. *JL* 7

c. *JM* 12

d. *KM* 9



Ex. 6 Points *V, W, X, Y,*and *Z* are collinear, $VZ = 52$, $XZ = 20$, and $WX = XY = YZ$. Find each length.

a. WX 10

b. VW 22

c. WY 20

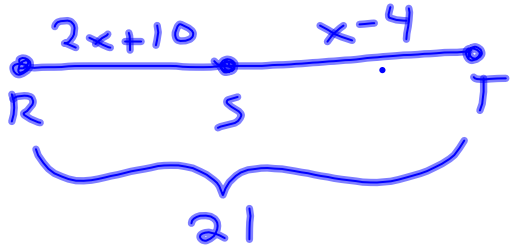
d. VX 32

e. WZ 30

f. VY 42

Ex. 7 Point *S* is between *R* and *T* on $\overline{RT}$
Write an equation and solve for *x*.
Then find *RS* and *ST*.

$RS = 2x + 10$
$ST = x - 4$
$RT = 21$



$21 = 2x+10+x-4$

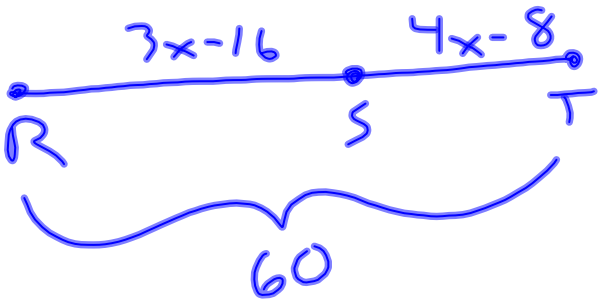
$21 = 3x + 6$
$-6 \quad -6$
$15 = 3x$

$x = 5$

$RS = 20$
$ST = 1$

Ex. 8 Point S is between R and T on $\overline{RT}$
Write an equation and solve for x.
Then find RS and ST.

$RS = 3x - 16$
$ST = 4x - 8$
$RT = 60$



$RS = 20$

$ST = 40$

$7x - 24 = 60$
$7x = 84$
$x = 12$

Ex. 9 Point S is between R and T on $\overline{RT}$
Write an equation and solve for x.
Then find RS and ST.

Make up your own problem similar to the previous ones. Then trade problems with a partner and solve each other's problems.