

1. Explain what  $\overline{MN}$  means and what  $MN$  means

Reference notes



Find the indicated length.

2. Find  $MP$



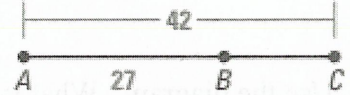
$MP = 23$  units

3. Find  $UW$



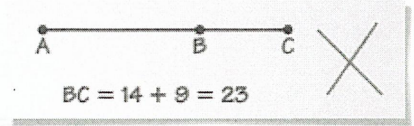
$UW = 65$  units

4. Find  $BC$



$BC = 15$  units

5. Error Analysis: In the figure at the right,  $AC=14$  units and  $AB=9$  units. Describe and correct the error made in finding  $BC$ .

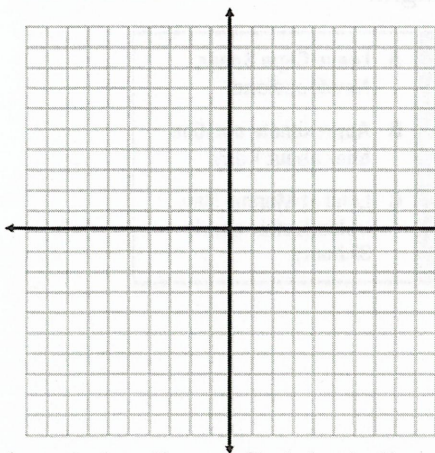


$BC = 5$  units

↑

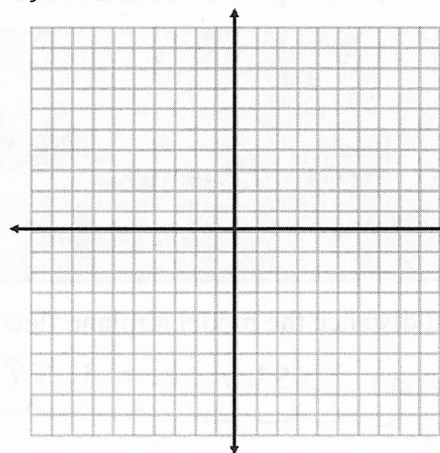
In exercises 6-7, plot the given point in a coordinate plane. Then determine whether the line segments named are congruent.

6.  $A(0, 1), B(4, 1), C(1, 2), D(1, 6)$   
 $\overline{AB}$  and  $\overline{CD}$



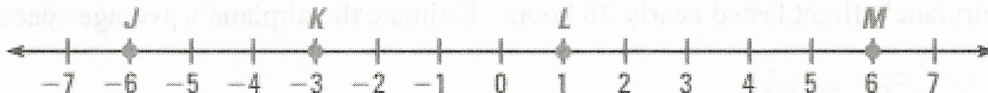
$\overline{AB} \cong \overline{CD}$   
Why?

7.  $J(-6, -8), K(-6, 2), L(-2, -4), M(-6, -4)$   
 $\overline{JK}$  and  $\overline{LM}$



$\overline{JK} \not\cong \overline{LM}$   
Why?

Use the number line to find the indicated distance.



8.  $JK = 3$  units

9.  $JL = 7$  units

10.  $JM = 12$  units

11.  $KM = 9$  units

In the diagram, points V, W, X, Y and Z are collinear,  $VZ = 52$  units,  $XZ = 20$  units and  $WX = XY = YZ$ . Find the indicated length.

12.  $WX = 10$  units

13.  $VW = 22$  units

14.  $WY = 20$  units

15.  $VX = 32$  units

16.  $WZ = 30$  units

17.  $VY = 42$  units



18. Use the diagram. What is the length of  $\overline{EG}$ ? Show your work.

A. 1 unit

B. 4.4 units

C. 10 units

D. 16 units



19. Point S is between R and T on  $\overline{RT}$ . Use the information below to write an equation in terms of  $x$ . Solve the equation. Then find RS and ST. (It may be helpful to draw it out)

$RS = 2x + 10$ ,

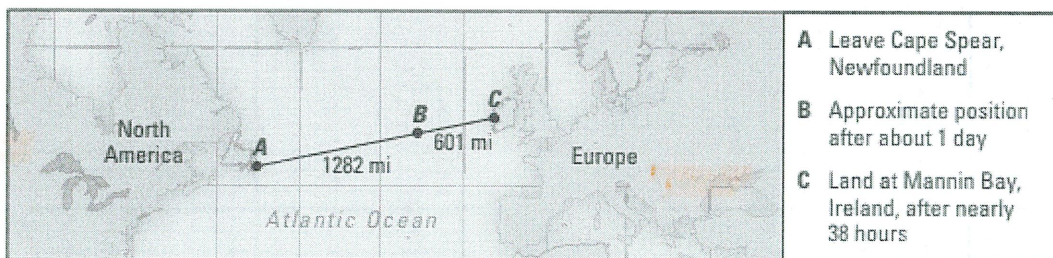
$ST = x - 4$

$RT = 21$ .

$x = 5$

$RS = 20$  units  
 $ST = 1$  unit

20. In 2003, a remote-controlled model airplane became the first ever to fly nonstop across the Atlantic Ocean. The map shows the airplane's position at three different points during its flight.



a.) Find the total distance the model airplane flew.

$\text{Total Distance} = 1,883$  miles

b.) The model airplane's flight lasted nearly 38 hours. Estimate the airplane's average speed. ( $d=rt$ )

$r \approx 50$  mph