Unit 1: Segments, length, and area   Name:

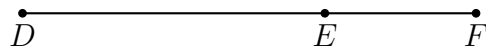8 Sept 2022

1.1 Classwork: Segment addition, vocabulary

1. Given $\overline{ABC}$, $AB = 2$, and $AC = 12$. Find BC.

A   B   C

2. Given $\overline{DEF}$, $DE = 3\frac{1}{3}$, and $EF = 1$.

   (a) Find DF.
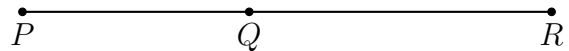
   D   E   F

   (b) The postulate used in this problem is the _____.

3. Given $\overline{PQR}$, $PQ = x - 2$, $QR = x$, $PR = 10$. Find PQ.

   (a) Label the diagram with the given values.

   P   Q   R

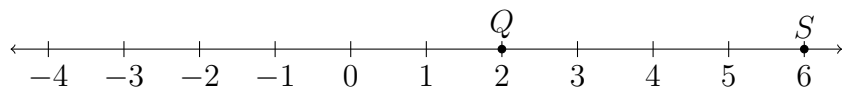   (b) Write an equation:

   (c) Solve for x

   (d) Answer the question.

   Find PQ by substituting for x.

   (e) Check your answer

4. Given $\overleftrightarrow{QS}$ as shown on the number line.

$$\begin{array}{ccccccccccc} & & & & & & Q & & & S & \\ \hline -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 \end{array}$$
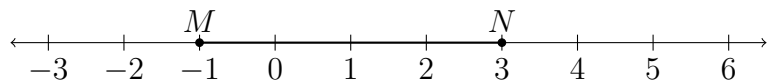
(a) In the given number line units, what is the distance between Q and S?

$QS =$

(b) Mark the point R, the midpoint of $\overline{QS}$.

5. Given $\overline{MN}$ with $M(-1)$ and $N(3)$, as shown on the number line.

$$\begin{array}{ccccccccc} & M & & & & N & & & \\ \hline -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 \end{array}$$
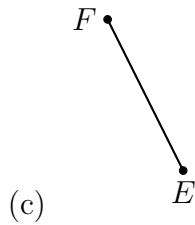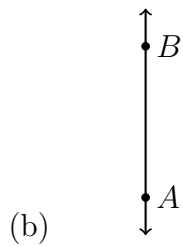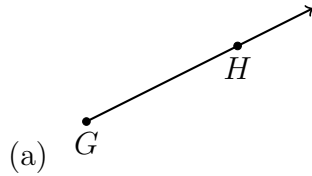
What is the length of the segment $\overline{MN}$? Show your work as an equation.

Can a length be a negative number?
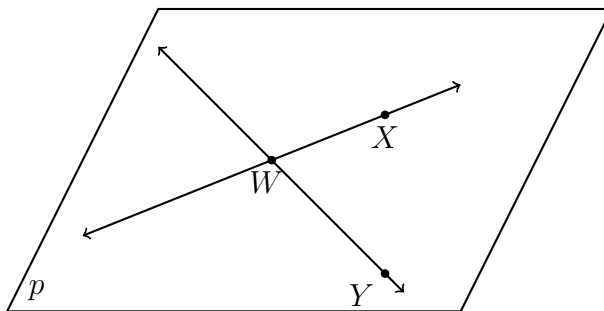
6. Points that are all located on the same line are _____.
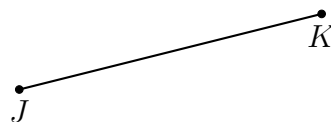
7. Use symbols to write the name of each geometric figure.

(a) G H

(b) B A

(c) F E

8. A flat surface is a(n) _____.

9. Two line segments or angles of equal measure are _____.

10. Identify two rays in the given plane.
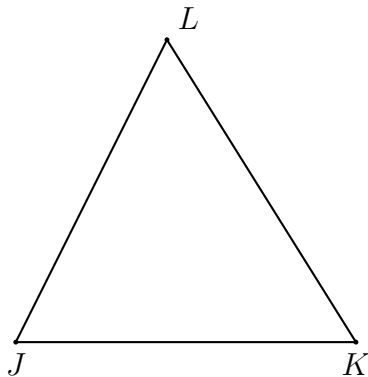
X W p Y

K J

11. Use symbols to write the name of the given figure.

12. A(n) _____ is a portion of a line that includes two points and all of the collinear points between the two points.

13. Given $\triangle JKL$ with $\overline{JK} \cong \overline{KL}$. On the diagram mark the congruent line segments with tick marks.
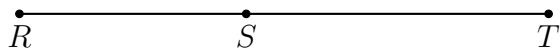
L

J   K

14. Draw and label a line segment $\overline{AB}$ such that the distance between points A and B is 6 cm.

15. Given the rectangle $ABCD$ shown below.

    (a) Measure and mark the length and width of the rectangle in centimeters.

    (b) Calculate the area of the rectangle in square centimeters. (show your work)
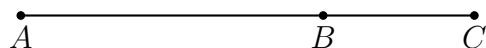
D   C

A   B

16. Do Now: Given $\overline{RST}$, $RS = 3\frac{2}{3}$, and $RT = 9\frac{1}{3}$. Find ST.

R   S   T

17. Given $\overline{ABC}$, $AB = 3.8$, and $BC = 1.7$.

    (a) Find AC.

    (b) The postulate used in this problem is the _____ .

18. Given $\overline{FG}$ as shown. What is the distance on the number line between the points?