

# Geometry Unit 1: Extra slides for Segments, Length, and Area

Bronx Early College Academy

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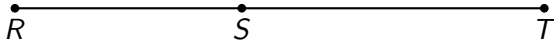
8-23 September 2022

## Extra 1.1 Segment addition

## Sandbox

## Segment addition with fractions

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



## Mark the diagram and state your answer as a fraction

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

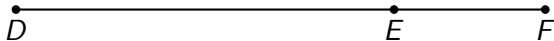


Solution

## Apply the Segment Addition Postulate

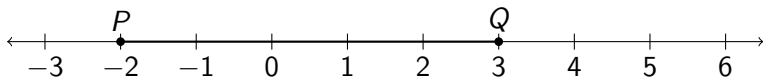
Show your work by marking the diagram and writing an equation.

Given  $\overline{DEF}$ ,  $DE = 8.5$ , and  $EF = 2.5$ . Find  $DF$ .



Find the length of the line segment  $\overline{PQ}$ .

Given  $P(-2)$  and  $Q(3)$ , as shown on the number line.

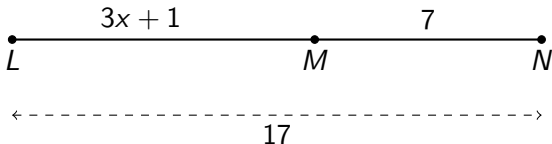


State an equation and the solution.

Check your work by counting the distance. Leave marks to show your work.

## Segment addition practice

Do Now: Given  $\overline{LMN}$ ,  $LM = 3x + 1$ ,  $MN = 7$ ,  $LN = 17$ . Find  $x$ .



1. Write down an equation to represent the situation.
2. Solve for  $x$ .
3. Check your answer.

## Midpoint example

Given  $M$  bisects  $\overline{AB}$ ,  $AM = 5x + 2$ ,  $MB = 20$ .

1. Mark the diagram with the values and tick marks
2. Write an equation and solve for  $x$
3. Check your result





## Solve for $x$ given a bisector

Given  $M$  is the midpoint of  $\overline{AB}$ ,  $AM = 5x + 2$ ,  $MB = 20$ .

1. Mark the diagram with the values and tick marks
2. Write an equation and solve for  $x$
3. Check your result



# Segment bisector example

Given  $M$  bisects  $\overline{PQ}$ ,  $PM = x + 7$ ,  $PQ = 23$ .

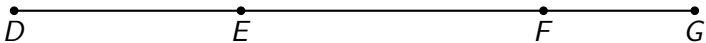
1. Mark the diagram with the values and tick marks
2. Write an equation and solve for  $x$
3. Check your result



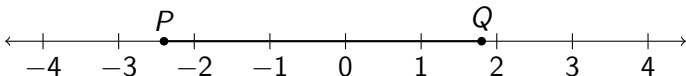
## Fraction and negatives+decimals practice problems

1. Do Now: Given  $\overline{DEFG}$ ,  $DE = 3\frac{1}{4}$ ,  $EF = 6\frac{1}{4}$ , and  $FG = 1\frac{3}{4}$ .  
(diagram not to scale)

Find  $DG$ , expressed as a fraction, not a decimal.



2. Given  $P(-2.4)$  and  $Q(1.8)$ , as shown on the number line. Find the length of the line segment  $\overline{PQ}$ .



# Sandbox

- (i) one
- (ii) two
- (iii) three

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- T F one
- T F two
- T F three

**End point** The point at the end of a line segments

**Line** An infinite number of points extending in both directions forever

## Definition

A **prime number** is a number that has exactly two divisors.