Measuring Segments

Unit 1 Lesson 3

Measuring Segments

Students will be able to:

- find and compare lengths of segments

Key Vocabulary

- coordinate
- distance
- congruent segments
- midpoint
- S=segment bisector

Measuring Segments

Every point on a line can be paired with a real number. This makes a one-to-one correspondence between the points on the line and the real numbers. The real number that corresponds to a point is called the coordinate of the point.

The distance between points A and B is the absolute value of the difference of their coordinates,

or $|a - b|$.

This value is also AB, or the length between A and B.

$AB = |a-b|$

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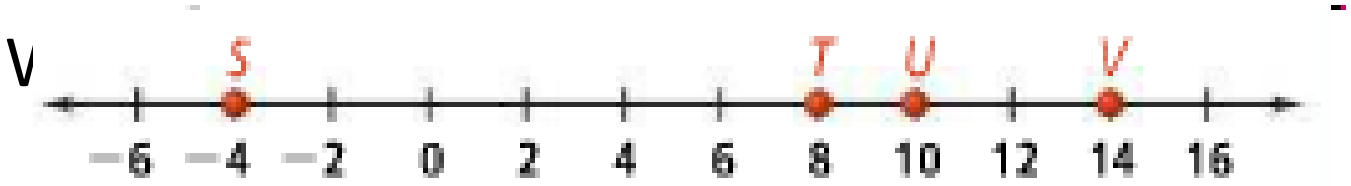
Problem 1:

What is ST?



What is SV?

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take note

Postulate 1-6 Segment Addition Postulate

If three points A, B, and C are collinear and B is between A and C, then $AB + BC = AC$.

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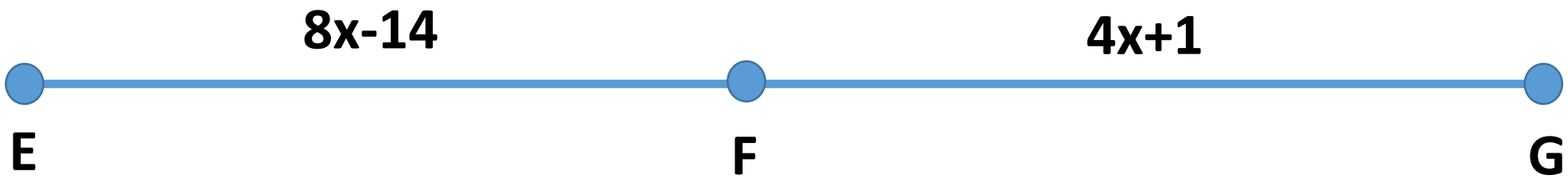
Problem 2:

If EG = 59, what are EF and FG?



What algebraic expression represents EG?

What is the numeric value given for EG?

How should you check to make sure that the segment lengths are correct?

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When numerical expressions have the same value, you say that they are equal (=).

Similarly, if two segments have the same length, then the segments are <u>congruent segments.</u>

The symbol for congruent is _____.

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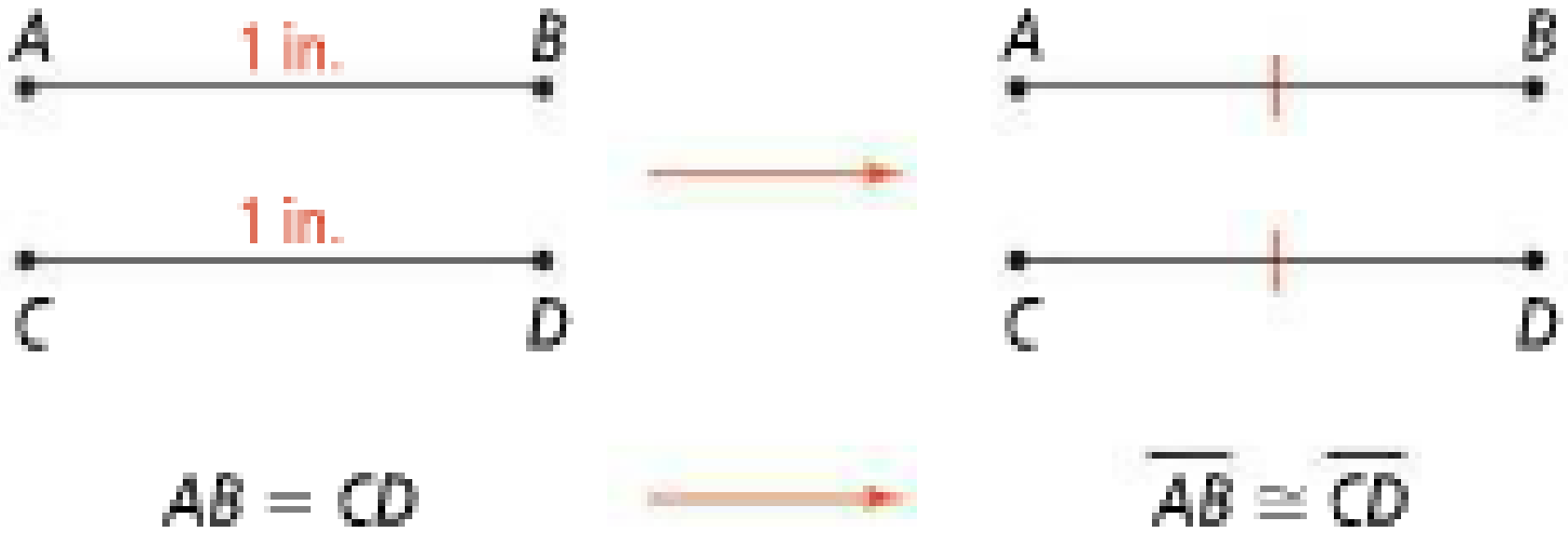
This means if AB = CD, then [redacted] .

You can also say that if [redacted],

then AB = CD.



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Problem 3:

Are [redacted] and [redacted] congruent?

Is Segment AB congruent to Segment DE?

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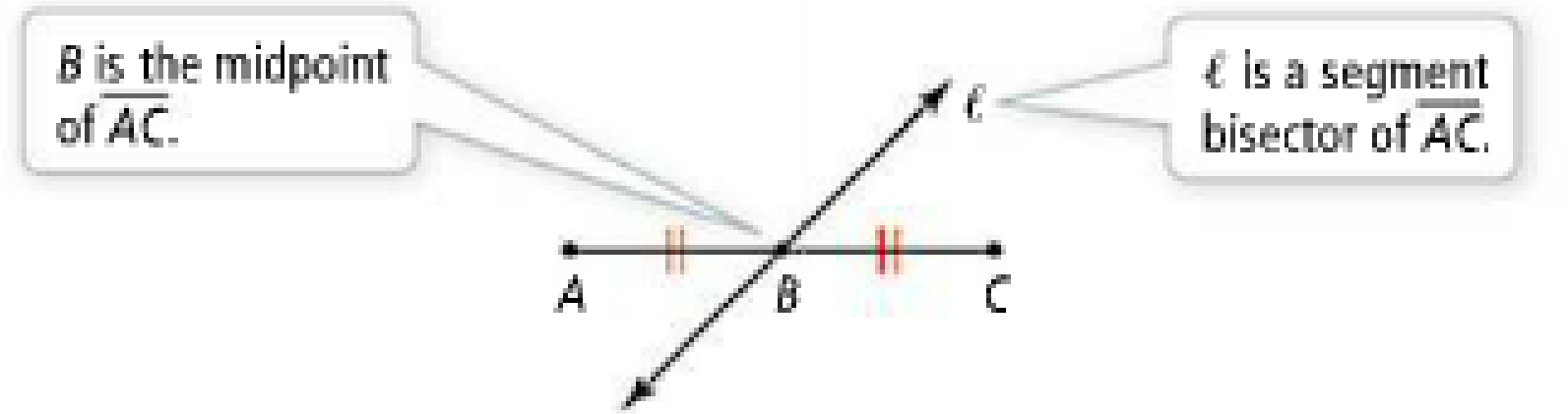
The **midpoint** of a segment is a point that divides the segment into two congruent segments.

A point, line, ray, or other segment that intersects a segment at its midpoint is said to ***bisect*** the segment.

That point, line, ray, or segment is called a **segment bisector**.



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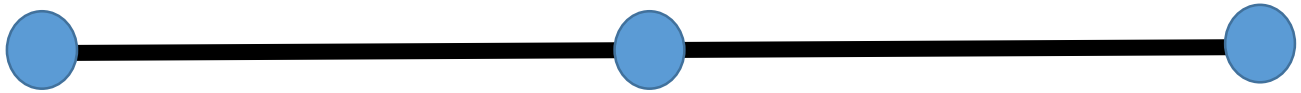
Problem 4:

Q is the midpoint of ■

What are PQ, QR, and PR?



6x - 7 5x + 1

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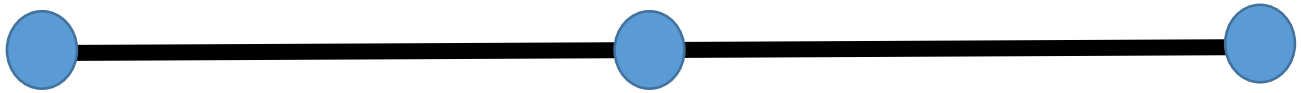
Problem 5:

U is the midpoint of [redacted].

What are TU, UV, and TV?



8x + 11 12x - 1