

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

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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.



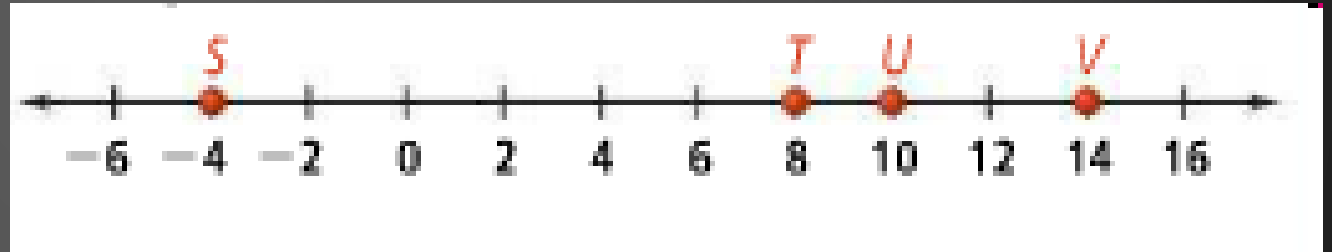
$$AB = |a - b|$$

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PROBLEM 1:

WHAT IS ST?

WHAT IS UV?



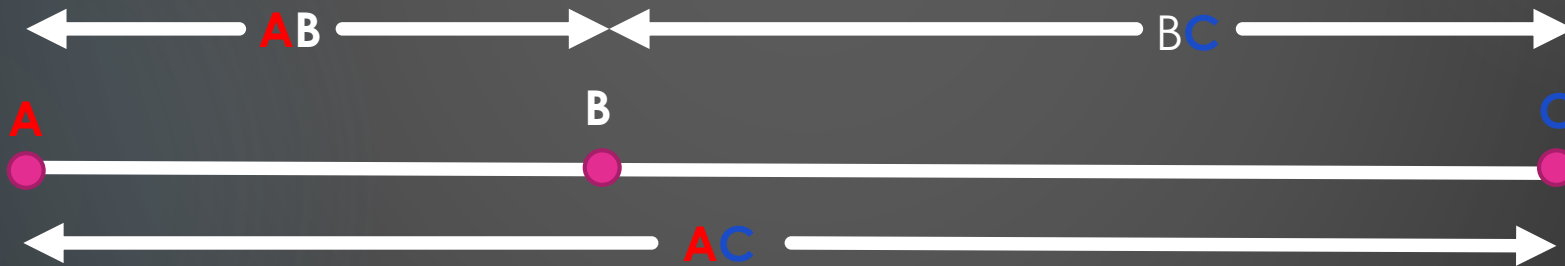
WHAT IS SV?

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Segment Addition Postulate

If three points **A**, **B**, **C** are collinear and **B** is between **A** and **C**, then $\text{AB} + \text{BC} = \text{AC}$

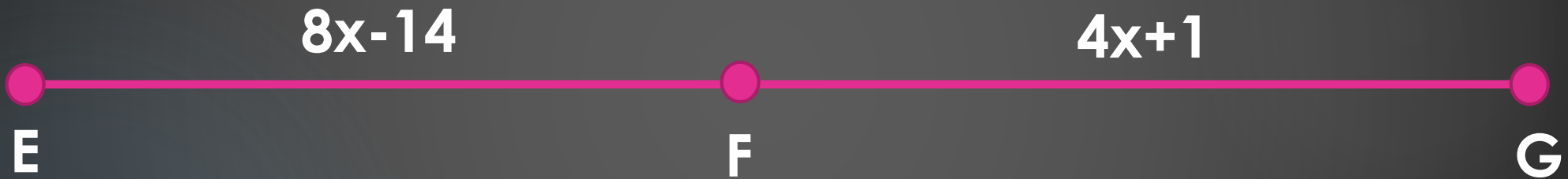


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PROBLEM 2:

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 CONGRUENT SEGMENTS.

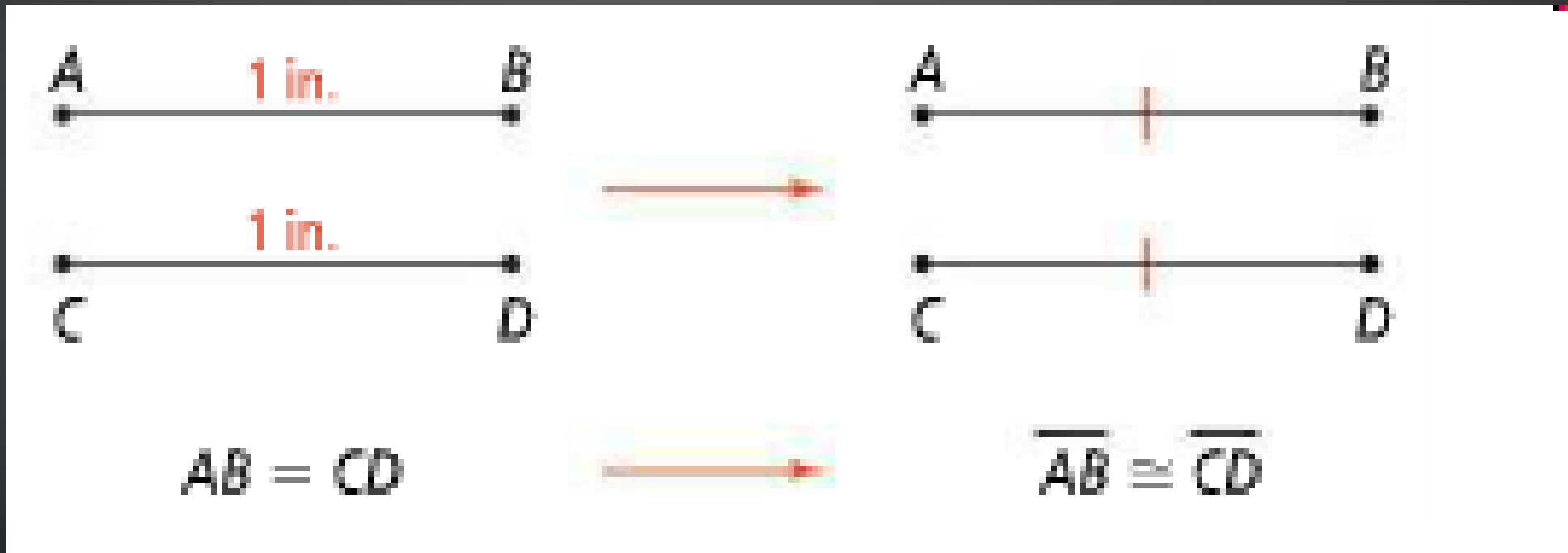
THE SYMBOL FOR CONGRUENT IS _____.

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THIS MEANS IF $AB = CD$, THEN $\overline{AB} \cong \overline{CD}$.

YOU CAN ALSO SAY THAT IF $\overline{AB} \cong \overline{CD}$

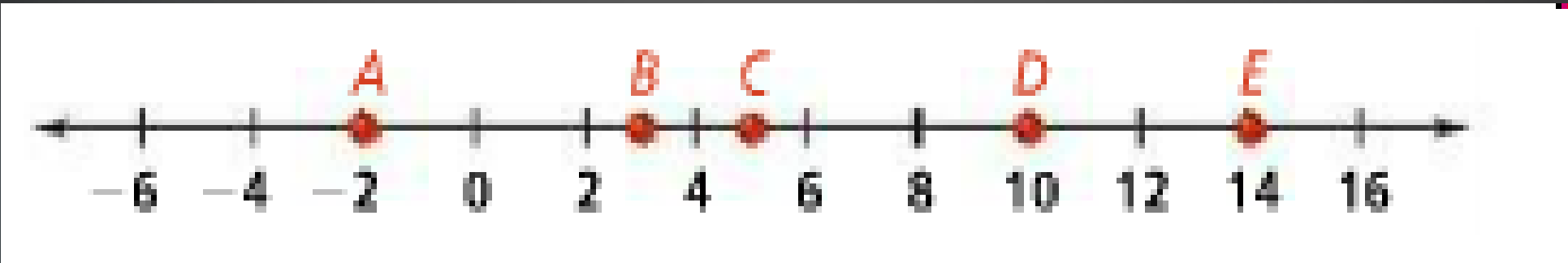
THEN $AB = CD$.



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PROBLEM 3:

ARE \overline{AC} AND \overline{BD} CONGRUENT?



IS SEGMENT AB CONGRUENT TO SEGMENT DE?

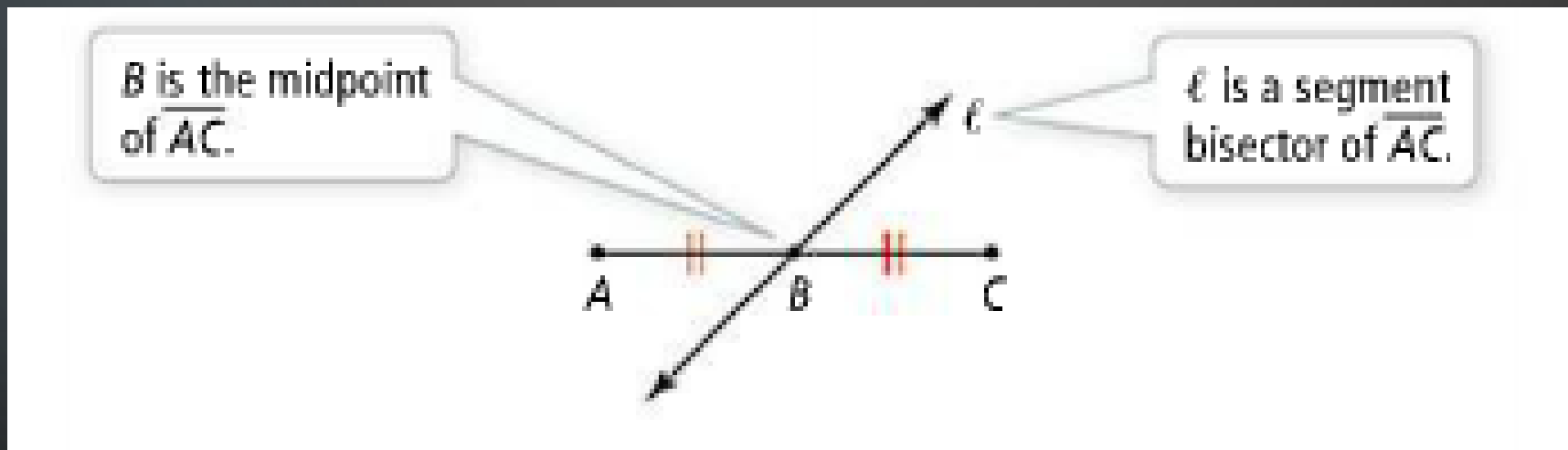
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THE **MIDPOINT** OF A SEGMENT IS A POINT THAT DIVIDES THE SEGMENT INTO TWO CONGRUENT SEGMENTS.

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**.



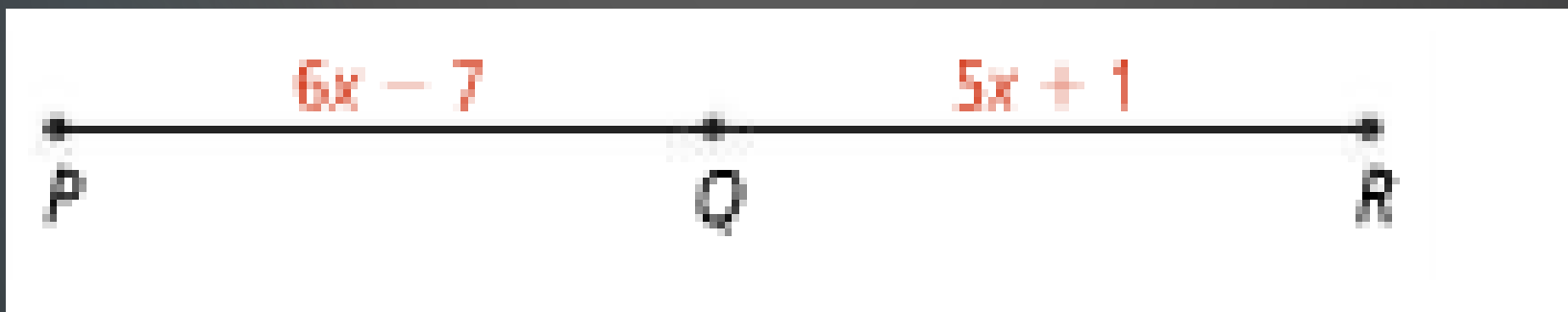
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PROBLEM 4:

Q IS THE MIDPOINT OF \overline{PR}

WHAT ARE PQ, QR, AND PR?



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PROBLEM 4(B):

U IS THE MIDPOINT OF \overline{TV} .

WHAT ARE TU, UV, AND TV?

