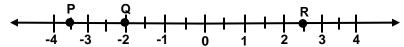
TOPIC 1-6: SEGMENTS, MIDPOINTS, AND BISECTORS

EXAMPLE 1 Find PQ, QR and PR on the number line shown below.



Examine the measures of PQ, QR and PR in EXAMPLE 2. Notice that 1.5 + 4.5 = 6, so ______. This suggests the following postulate...

Segment Addition Postulate: If Q is between P and R, then PQ + QR = PR. If PQ + QR = PR, then Q is between P and R. **Part + Part = Whole**

EXAMPLE 2 If B is between A and C and AB = 4 and BC = 5, then AC = _____

EXAMPLE 3 If AB = x, BC = x + 6 and AC = 24, then find AB and BC.

AB = _____; BC = _____

EXAMPLE 4 Find LM if L is between N and M, NL = 6x - 5, LM = 2x + 3 and NM = 3x + 13.

LM = _____

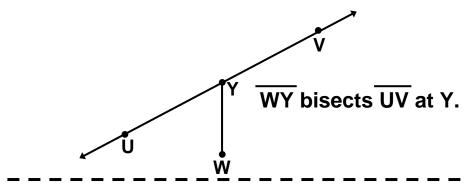
TERM	DEFINITION	SKETCH
Midpoint	A point on a segment equidistant from both endpoints.	

EXAMPLE 1 B is the midpoint of AC. AB = z + 2 and BC = 2z - 6. Find "z".

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TERM	DEFINITION	SKETCH
Segment Bisector	A point, line, ray, segment, or plane that intersects a segment at its midpoint	

Use the figure below to answer EXAMPLES 3 - 5.



EXAMPLE 2 If UY = 5, then find YV and UV.

EXAMPLE 3 If UY = 4x - 3 and YV = x, find UY and UV.

EXAMPLE 5 \overline{AB} bisects \overline{EF} at T. If EF = x + 6 and TF = x - 1, find TE.

EXAMPLE 6 B is between A and C. AB = 2y + 6, BC = y + 8, and AC = 20. Find the value of "y" and determine if B is a bisector.