TOPIC 1-5: SEGMENTS & MIDPOINTS

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

A point is the midpoint of segment if it is _____ the two endpoints, and the distances from this point to each endpoint are _____.
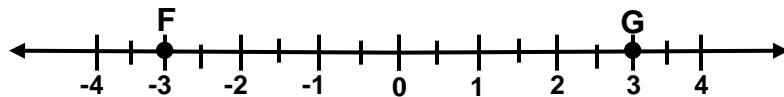

P   M   Q

You can find the midpoint of a segment that is either on a number line or on a coordinate plane.
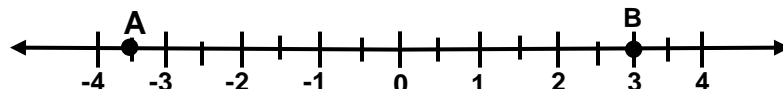
Midpoint on a number line:

> **Midpoint (on a number line) =**
>
> **(Where a & b are coordinates of endpoints.)**

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EXAMPLE 1 Find the coordinate of the midpoint of $\overline{FG}$.

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EXAMPLE 2 Find the coordinate of the midpoint of $\overline{AB}$.

EXAMPLE 3 If the coordinate of the midpoint of a segment AB on a number line is 3, and A is at –2, find the coordinate of B.

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Midpoint on a coordinate plane:

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EXAMPLE 4 Find the midpoint between (-11, 3) and (8, -7).

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EXAMPLE 5 Find the coordinates of the midpoint of $\overline{VW}$, if V(3, -6) and W(7, 2).

EXAMPLE 6 M is the midpoint of $\overline{AB}$ with A(0, 1) and M(3, 5).
Find the coordinates of B.

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EXAMPLE 7 The midpoint of $\overline{RQ}$ is M(4, -1). What are the
coordinates of R if Q is at (3, -2)?