

Math 1

Bring laptops
tomorrow

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Part 1: Graphing

1. Graph the points A (1, 6) and B (7, -2).

a. Find the midpoint of \overline{AB} .

$$(4, 2)$$

b. Find the distance of \overline{AB} .

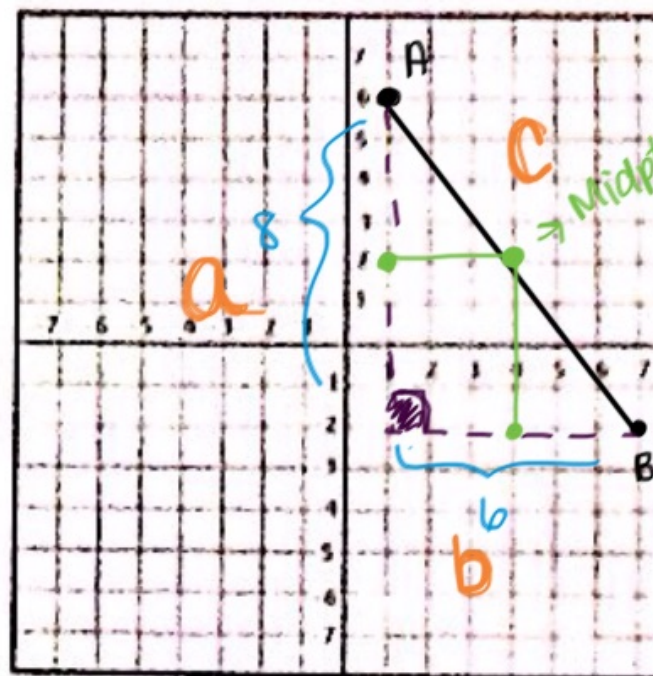
$$a^2 + b^2 = c^2$$

$$8^2 + b^2 = c^2$$

$$64 + 36 = c^2$$

$$\sqrt{100} = \sqrt{c^2}$$

$$\boxed{c=10}$$



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2. Graph the points C (2, 2) and D (6, 2).

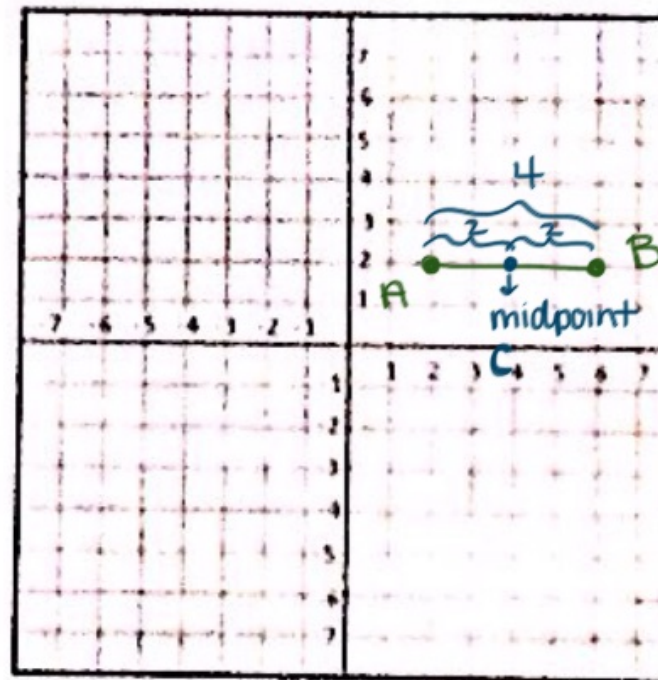
a. Find the midpoint of \overline{CD} ? Call the point E.

$$(4, 2)$$

b. Prove that the distance of \overline{CE} is equal to \overline{DE} .

$$AB = 4$$

$$\overline{AC} = 2$$
$$\overline{BC} = 2$$



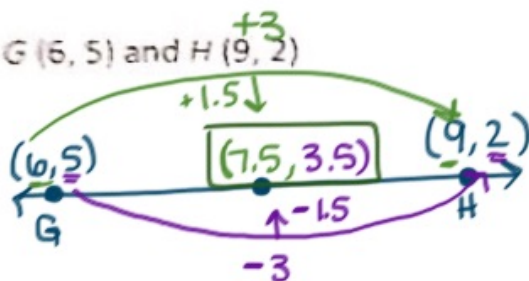
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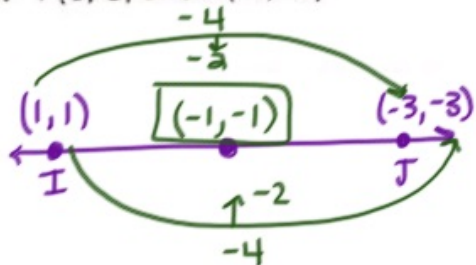
Part 2: Midpoint without the coordinate plane

Find the midpoint for each line segment using the formula (no graphing needed). Show all work.

3. $G(6, 5)$ and $H(9, 2)$



4. $I(1, 1)$ and $J(-3, -3)$



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Find the distance between each set of points (round to the nearest decimal). Show all work.

6. (0, 0) and (4, 3)

$$0 \rightarrow 4 = 4$$

$$0 \rightarrow 3 = 3$$

$$3^2 + 4^2 = C^2$$

$$9 + 16 = C^2$$

$$\sqrt{25} = \sqrt{C^2}$$

$$\boxed{C=5}$$

horizontal Dist. \rightarrow x's
vertical Dist. \rightarrow y's

7. (3, -3) and (2, 7)

$$3 \rightarrow 2 = 1$$

$$-3 \rightarrow 7 = 10$$

$$10^2 + 1^2 = C^2$$

$$100 + 1 = C^2$$

$$\sqrt{101} = \sqrt{C^2}$$

$$\boxed{C=10.04}$$

8. (3, 7) and (-4, 7)

$$3 \rightarrow -4 = \boxed{7}$$

$$7 \rightarrow 7 = 0$$

$$7^2 + 0^2 = C^2$$

$$49 + 0 = C^2$$

$$\sqrt{49} = \sqrt{C^2} \quad \boxed{C=7}$$

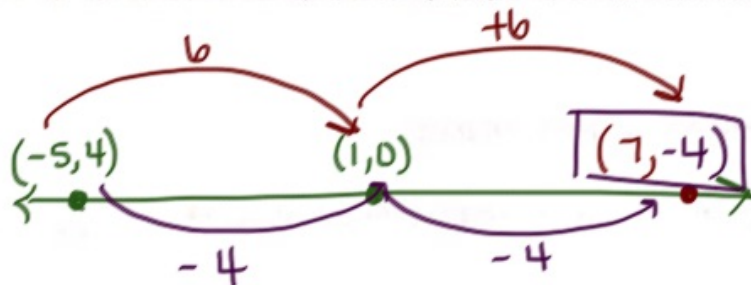
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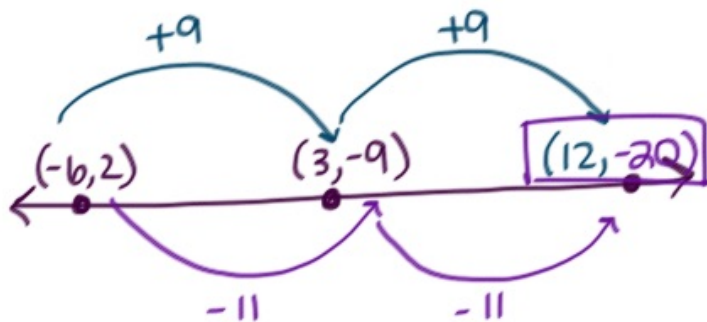
Part 4: Finding an Endpoint

Find the endpoint for each line segment using the given point and the midpoint. Show the formula and all work.

9. $(-5, 4)$ is the Midpoint of $(1, 0)$ and what other endpoint?



10. $(3, -9)$ is the Midpoint of $(-6, 2)$ and what other endpoint?



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