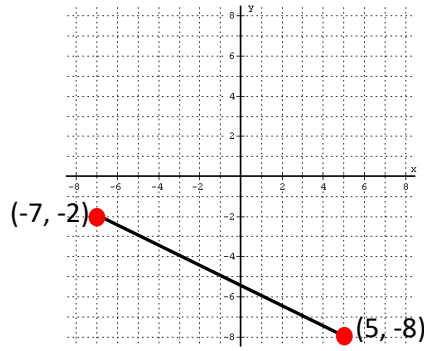
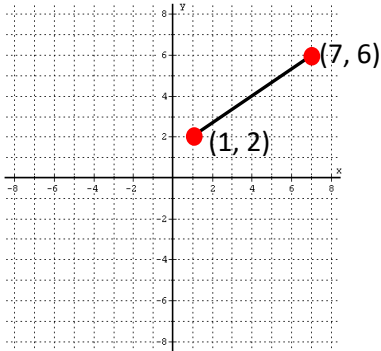


### Exploration: Finding the Midpoint of a Segment

- 1) A segment is a piece of a line. It goes from point to point and does not continue on forever. The midpoint of a segment is the point that is exactly halfway between the two endpoints. If you had to guess, where would you say the midpoint of each segment is?



- 2) Where do you think the midpoint would be if the coordinates were (200, 471) and (300, 473)?
- 3) If I give you any two numbers, what mathematical steps can you take to always find the number that is halfway in between them?
- 4) If  $(x_1, y_1)$  and  $(x_2, y_2)$  are the coordinates of two points, can you come up with a formula that will give you the midpoint of the segment that connects them?

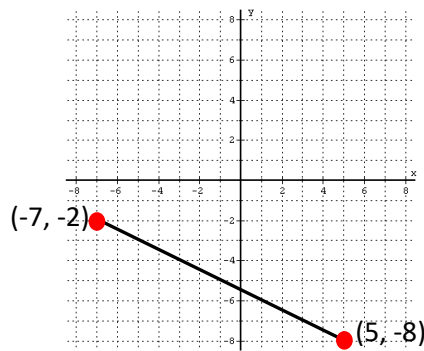
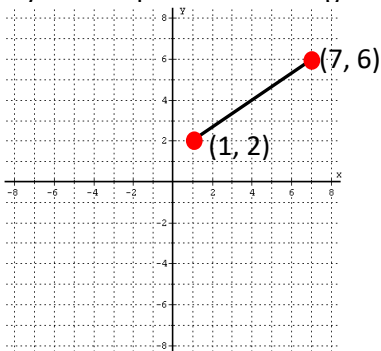
**STOP: CHECK WITH A TEACHER TO SEE IF YOUR FORMULA IS RIGHT BEFORE MOVING ON!!!!**

**Find the midpoint of the segment with the given coordinates.**

- 5) (6, 3) and (9, 11)      6) (-2, 8) and (-10, -6)      7) (-7, 0) and (8, -18)      8) (4, 8) is the midpt of (-2, 5) and (?, ?)

### Exploration: Finding the Midpoint of a Segment

- 1) A segment is a piece of a line. It goes from point to point and does not continue on forever. The midpoint of a segment is the point that is exactly halfway between the two endpoints. If you had to guess, where would you say the midpoint of each segment is?



- 2) Where do you think the midpoint would be if the coordinates were (200, 471) and (300, 473)?
- 3) If I give you any two numbers, what mathematical steps can you take to always find the number that is halfway in between them?
- 4) If  $(x_1, y_1)$  and  $(x_2, y_2)$  are the coordinates of two points, can you come up with a formula that will give you the midpoint of the segment that connects them?

**STOP: CHECK WITH A TEACHER TO SEE IF YOUR FORMULA IS RIGHT BEFORE MOVING ON!!!!**

**Find the midpoint of the segment with the given coordinates.**

- 5) (6, 3) and (9, 11)      6) (-2, 8) and (-10, -6)      7) (-7, 0) and (8, -18)      8) (4, 8) is the midpt of (-2, 5) and (?, ?)