Name _____ Class _____ Date _____

1-7 Standardized Test Prep

Midpoint and Distance in the Coordinate Plane

Multiple Choice

For Exercises 1–7, choose the correct letter.

1. What is the other endpoint of the segment with midpoint -3 and endpoint -7?

(A) -11 (B) -5 (C) 1 (D) 4

2. The endpoints of $\overline{ST}$ are $S(2, -2)$ and $T(4, 2)$. What are the coordinates of the midpoint of $\overline{ST}$?

(F) $(3, 0)$ (G) $(0, 3)$ (H) $(3, -2)$ (I) $(3, 2)$

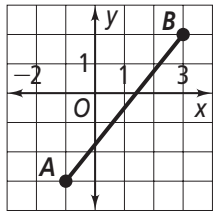
3. What is the distance between $A(-8, 4)$ and $B(4, -1)$?

(A) 7 (B) 10 (C) 13 (D) 17

4. The midpoint of $\overline{XZ}$ is Y. Which of the following is true?

(F) $XZ = XY$ (G) $XZ = \frac{1}{2}XY$ (H) $YZ = \frac{1}{2}XY$ (I) $YZ = \frac{1}{2}XZ$

Use the graph at the right for Exercises 5 and 6.



5. According to the graph, what is the midpoint of $\overline{AB}$?

(A) $(1, 0)$ (C) $(1, 0.5)$

(B) $(1, -0.5)$ (D) $(1.5, -0.5)$

6. According to the graph, what is AB to the nearest tenth?

(F) 2.2 (G) 3 (H) 5 (I) 6.4

7. The midpoint of $\overline{CD}$ is $M(-3, -7)$. If the coordinates of C are $(-2, -10)$, what are the coordinates of D?

(A) $(-4, -4)$ (B) $(-1, -13)$ (C) $(-2.5, -8.5)$ (D) $(-5, -17)$

Short Response

8. The midpoint of $\overline{AB}$ is in Quadrant IV, and $\overline{AB}$ is parallel to the y-axis.

a. What quadrant or quadrants cannot contain either point A or B? Explain.

b. What else can you determine about points A and B?