

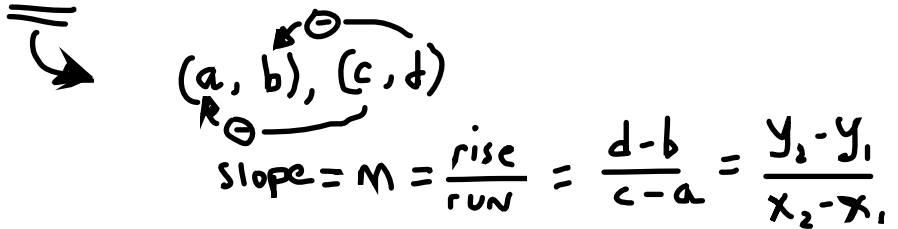
**STANDARD IV:** The student will be able to apply formulas.

Note:  
ONLY SLOPE  
for Algebra IA

**OBJECTIVE**

2. Find the distance, midpoint, or slope of line segments when given two points.

**ELIGIBLE CONTENT**



- Radicals may be used.
- Radicals will be simplified.
- Lines graphed on the coordinate plane may be included.
- Determining the slope of a line given a line on the coordinate plane with two points labeled with their ordered pairs may be required.
- Determining the slope of a line or midpoint of a line segment given two points on a line on the coordinate plane without any coordinates labeled may be required.
- The formulas will be given in the problems.

**SAMPLE ITEMS**

**1** The endpoints of  $\overline{AB}$  are  $(2, 5)$  and  $(-6, 9)$ . What are the coordinates of the midpoint of  $\overline{AB}$ ?

Midpoint formula:  $M = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

- A  $(-4, 2)$
- B  $(-2, 7)$
- C  $(4, 7)$
- D  $(7, -2)$

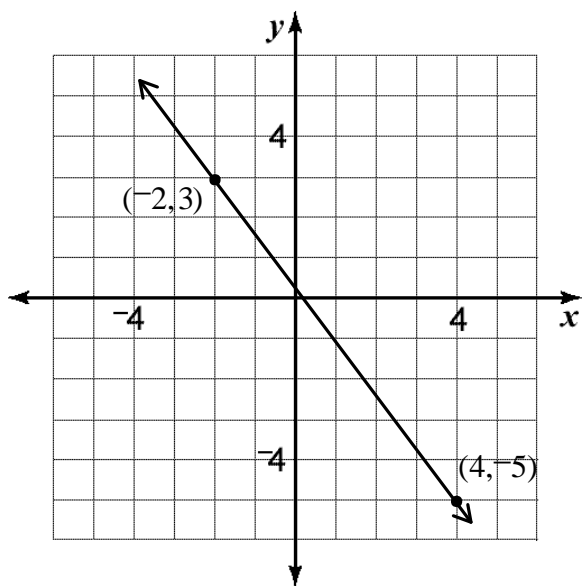
**2** What is the distance between  $(4, -2)$  and  $(4, -8)$ ?

Distance formula:  
 $D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

- A  $\sqrt{6}$
- B  $2\sqrt{5}$
- C 6
- D 10

- 3** What is the slope of the line shown in the graph?

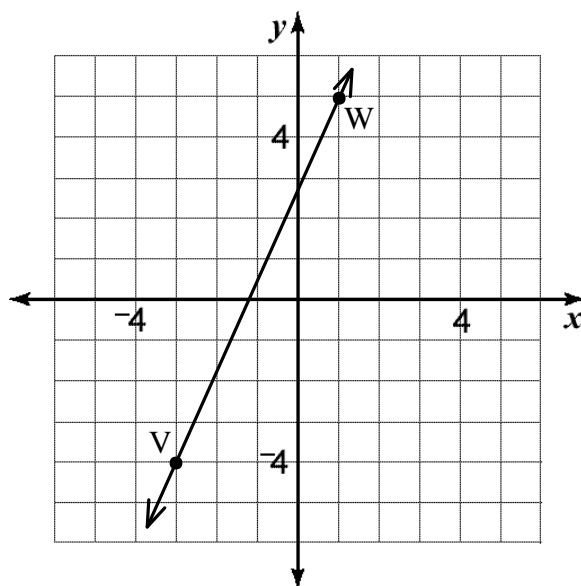
Slope formula:  $m = \frac{y_2 - y_1}{x_2 - x_1}$



- A -4
- B -1
- C  $-\frac{4}{3}$
- D  $-\frac{1}{3}$

- 4** What is the midpoint of segment VW shown in the graph?

Midpoint formula:  $M = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$



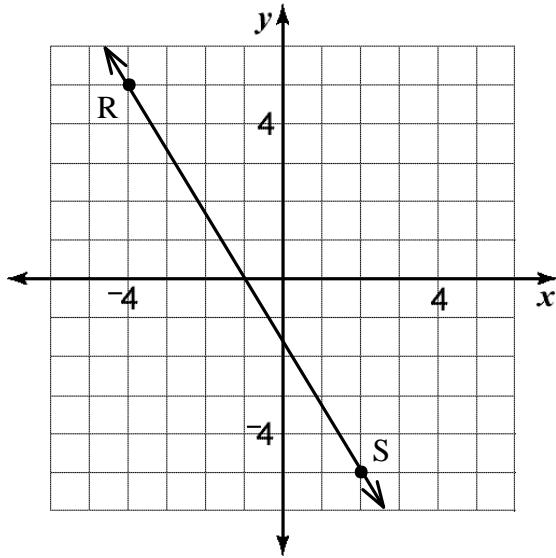
- A  $\left(-\frac{7}{3}, 3\right)$
- B  $\left(-1, \frac{1}{2}\right)$
- C  $\left(\frac{1}{2}, -1\right)$
- D  $\left(3, -\frac{7}{2}\right)$

5

What is the length of segment RS shown in the graph below?

Distance formula:

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$



- A  $2\sqrt{26}$
- B  $2\sqrt{34}$
- C 11
- D 12