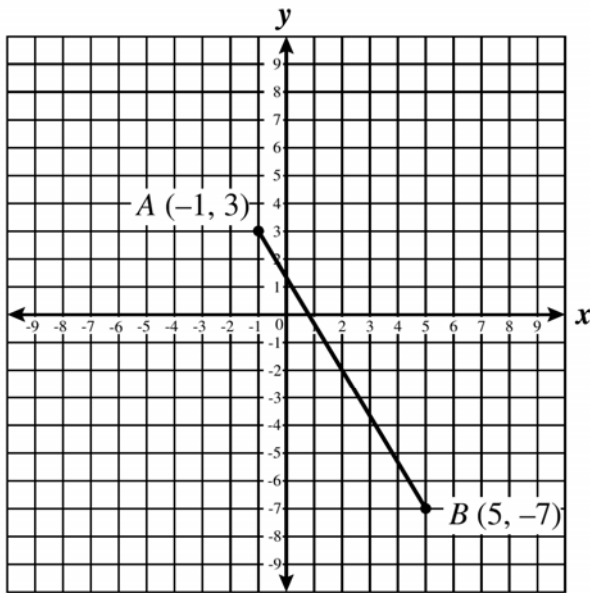


- 1 Line segment AB is plotted on the coordinate grid below.

Mark your answer here: 1. A B C D



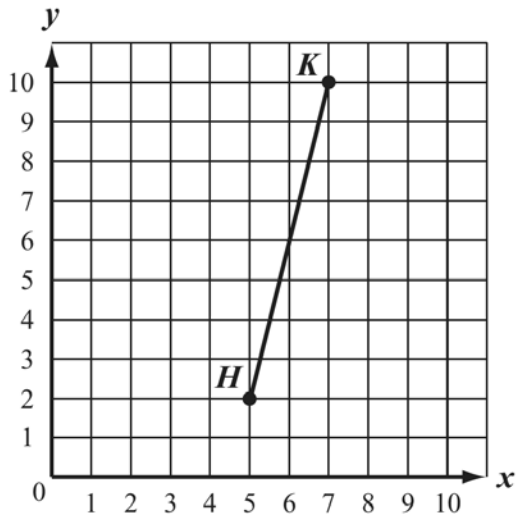
What is the midpoint of line segment AB ?

- A. $(3, -5)$
- B. $(2, -2)$
- C. $(-2, 2)$
- D. $(-5, 3)$



- 2 The coordinate grid below shows point $H(5, 2)$, point $K(7, 10)$, and \overline{HK} .

Mark your answer here: 2. (A)(B)(C)(D)

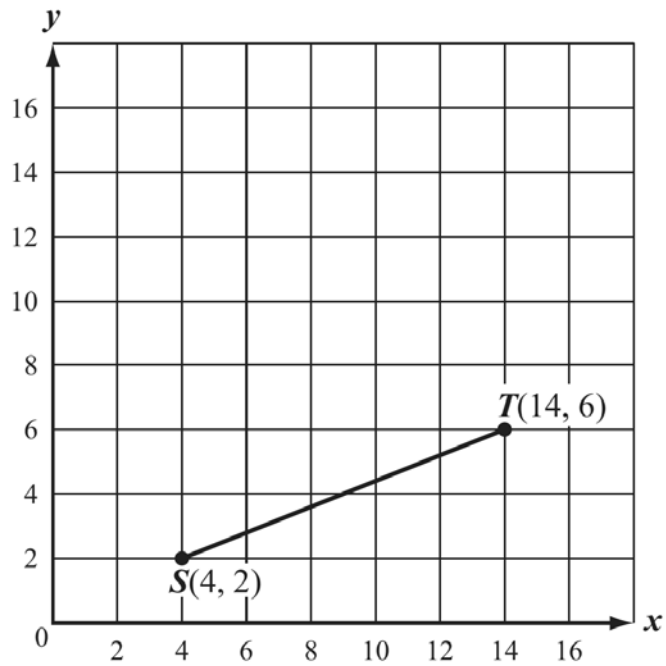


What is the slope of \overline{HK} ?

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



- 3 On the coordinate grid below, \overline{ST} is shown.



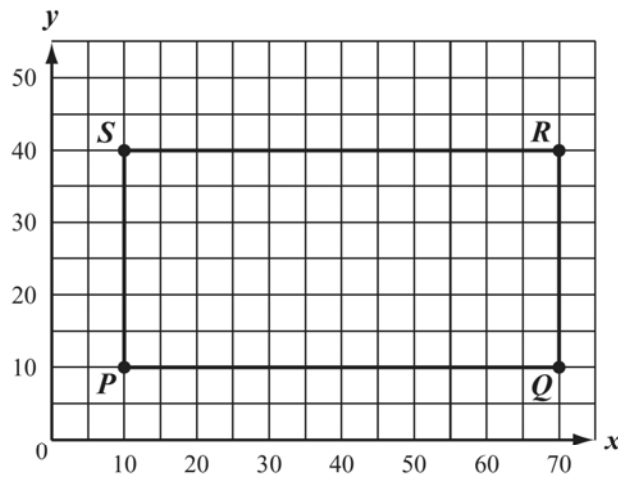
Write the ordered pair that represents the midpoint of \overline{ST} .

Write your answer here:



Directions: For the problem below, use a separate piece of paper to write your answers. Your teacher will not count anything you write on this page.

- 7 Gary makes signal flags for use in sailing. He drew rectangle $PQRS$ on a coordinate grid to represent a flag, with vertices $P(10,10)$, $Q(70,10)$, $R(70,40)$, and $S(10,40)$, as shown below.



- a. What is the length, in units, of \overline{PQ} ? Show or explain how you got your answer.
- b. What is the length, in units, of \overline{SP} ? Show or explain how you got your answer.

Copy the x -axis, the y -axis, and rectangle $PQRS$ onto the grid in your Student Answer Booklet. Define the midpoint of each side of rectangle $PQRS$ as follows:

- W is the midpoint of \overline{PQ} .
 - X is the midpoint of \overline{QR} .
 - Y is the midpoint of \overline{RS} .
 - Z is the midpoint of \overline{SP} .
- c. On your coordinate grid, plot the midpoints W , X , Y , and Z .
 - Label each midpoint with its letter and coordinates.
 - Show or explain how you determined the coordinates of each midpoint.
 - Draw quadrilateral $WXYZ$.
 - d. On the flag, quadrilateral $WXYZ$ represents the boundary of a region that will be colored red. What is the perimeter, in units, of quadrilateral $WXYZ$? Show or explain how you got your answer.

