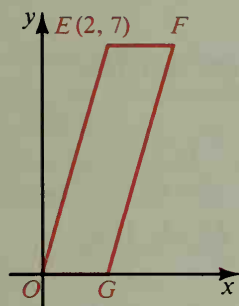


Written Exercises

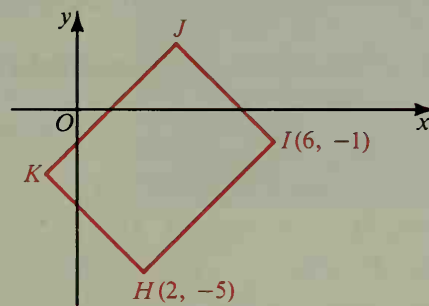
Find the slope of (a) \overleftrightarrow{AB} , (b) any line parallel to \overleftrightarrow{AB} , and (c) any line perpendicular to \overleftrightarrow{AB} .

- A 1. $A(-2, 0)$ and $B(4, 4)$ 2. $A(-3, 1)$ and $B(2, -1)$

3. In the diagram at the left below, $OEFG$ is a parallelogram. What is the slope of \overline{OE} ? of \overline{GF} ? of \overline{OG} ? of \overline{EF} ?



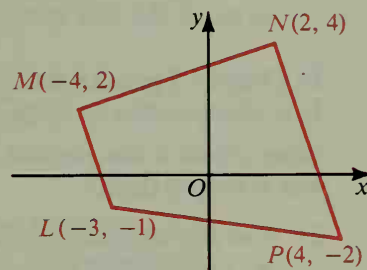
Ex. 3



Ex. 4

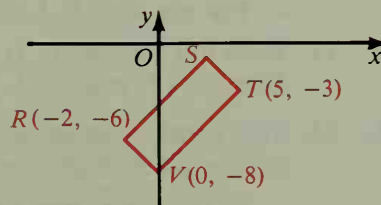
4. In the diagram at the right above, $HIJK$ is a rectangle. What is the slope of \overline{HI} ? of \overline{JK} ? of \overline{IJ} ? of \overline{KH} ?

5. a. What is the slope of \overline{LM} ? of \overline{PN} ?
b. Why is $\overline{LM} \parallel \overline{PN}$?
c. What is the slope of \overline{MN} ? of \overline{LP} ?
d. Why is \overline{MN} not parallel to \overline{LP} ?
e. What special kind of quadrilateral is $LMNP$?



6. Quadrilateral $RSTV$ is known to be a parallelogram.

- a. What is the slope of \overline{RV} ? of \overline{TV} ?
b. Why is $\overline{RV} \perp \overline{TV}$?
c. Why is $\square RSTV$ a rectangle?
d. Find the coordinates of S .



Find the slope of each side and each altitude of $\triangle ABC$.

7. $A(0, 0)$ $B(7, 3)$ $C(2, -5)$ 8. $A(1, 4)$ $B(-1, -3)$ $C(4, -5)$

Use slopes to show that $\triangle RST$ is a right triangle.

9. $R(-3, -4)$ $S(2, 2)$ $T(14, -8)$ 10. $R(-1, 1)$ $S(2, 4)$ $T(5, 1)$

- B 11. Given the points $A(-6, -4)$, $B(4, 2)$, $C(6, 8)$, and $D(-4, 2)$ show that $ABCD$ is a parallelogram using two different methods.
a. Show that opposite sides are parallel. b. Show that opposite sides are congruent.