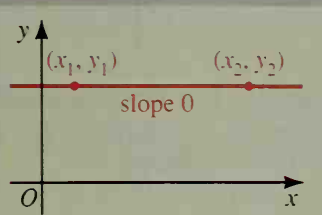


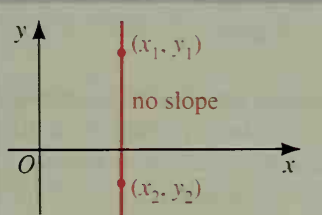
The diagrams below explain why the following are true.

The slope of a horizontal line is zero.



$$\text{Since } y_1 = y_2, \\ \frac{y_2 - y_1}{x_2 - x_1} = \frac{0}{x_2 - x_1} = 0.$$

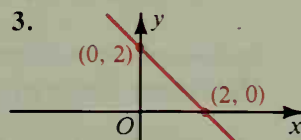
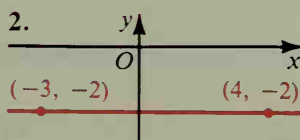
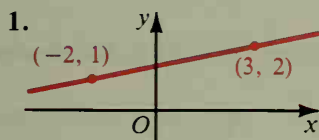
The slope of a vertical line is not defined.



$$\text{Since } x_1 = x_2, \\ \frac{y_2 - y_1}{x_2 - x_1} = \frac{y_2 - y_1}{0}, \text{ which is not defined.}$$

Classroom Exercises

Find the slope of the line.

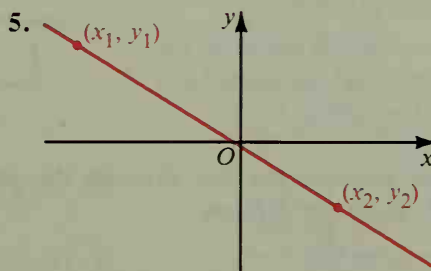
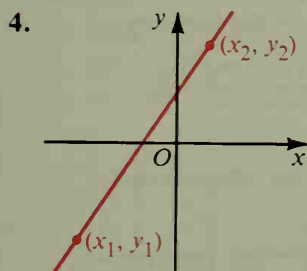


Tell whether each expression is positive or negative for the line shown:

a. $y_2 - y_1$

b. $x_2 - x_1$

c. $\frac{y_2 - y_1}{x_2 - x_1}$



6. Does the slope of the line appear to be positive, negative, zero, or not defined?

a.

b.

c.

d.