

Algebra I

Notes Section 34 Find Slope and Rate of Change

Big Ideas

1. How to find the find the slope of a line.
2. How to interpret slope as a rate of change.

VOCABULARY

Slope: _____

Rate of Change: _____

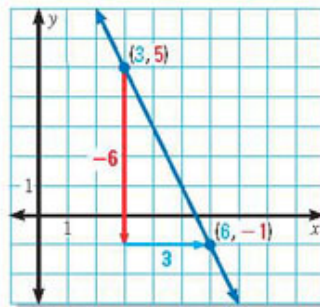
EXAMPLE 1 Find the slope of the line shown.

- a) $(-4, 2)$ and $(2, 6)$ b) $(-2, 3)$ and $(4, 6)$ c) $(9/2, 5)$ and $(1/2, -3)$

EXAMPLE 2 Find the slope of the line shown.

line a _____

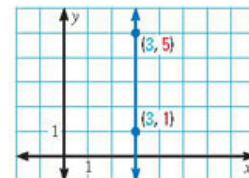
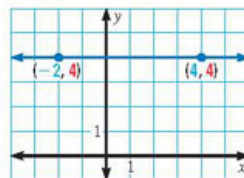
line b _____



EXAMPLE 3 Find the slope of the line shown.

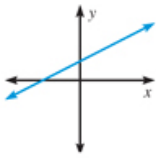
line a _____

line b _____

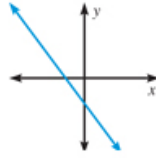


Classification of Lines by Slope

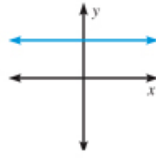
A line with positive slope ($m > 0$) rises from left to right.



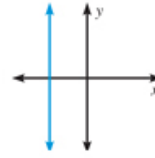
A line with negative slope ($m < 0$) falls from left to right.



A line with zero slope ($m = 0$) is horizontal.



A line with undefined slope is vertical.



EXAMPLE 4 The table shows the cost of using a computer at an Internet cafe for a given amount of time. Find the rate of change in cost with respect to time.

Time (hours)	2	4	6
Cost (dollars)	7	14	21

EXAMPLE 5 A community theater performed a play each Saturday evening for 10 consecutive weeks. The graph shows the attendance for the performances in weeks 1, 4, 6, and 10. Describe the rates of change in attendance with respect to time.

Weeks 1-4: _____

Weeks 4-6: _____

Weeks 6-10: _____

EXAMPLE 6 A student commutes from home to school by walking and by riding a bus. Describe the student's commute in words.

1st Segment: _____

2nd Segment: _____

3rd Segment: _____