

# Geometry

## Notes Section 34

### Find and Use Slopes of Lines

#### VOCABULARY

Slope: \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

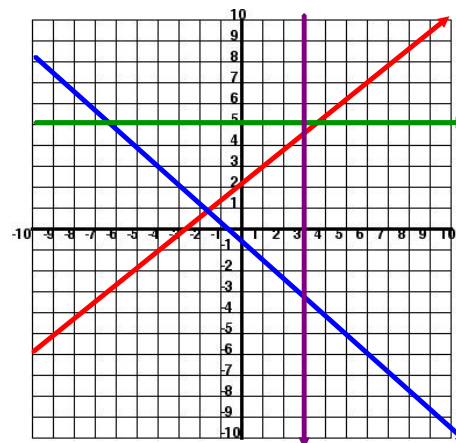
#### Slopes of Lines

I. Positive: **p**

II. Negative: **n**

III. Zero (Horizontal Line): **h**

IV. Undefined (Vertical Line): **v**



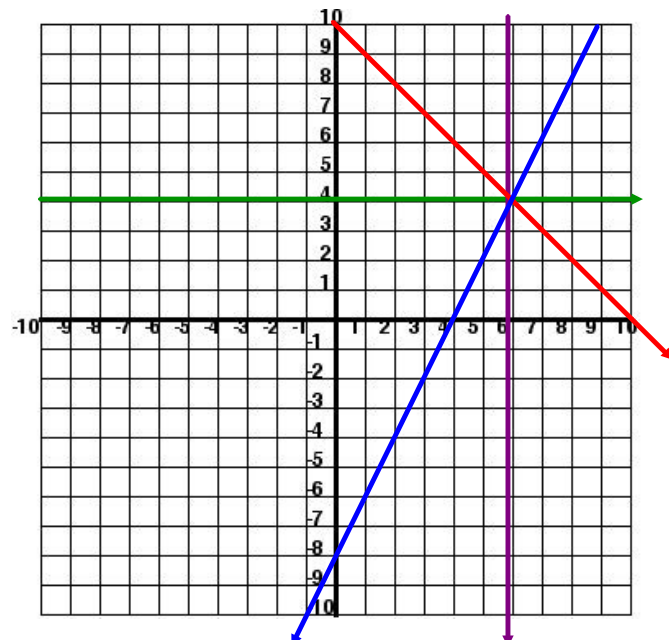
EXAMPLE 1 Find the slopes.

a) **line a**

b) **line b**

c) **line c**

d) **line d**



**Postulate 17 (Slopes of Parallel Lines): SAME SLOPE**

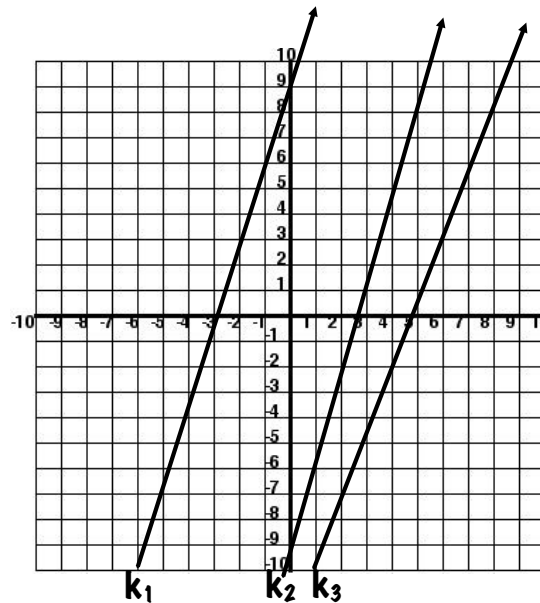
**Postulate 18 (Slopes of Perpendicular Lines): OPPOSITE RECIPROALS;  
Product = -1**

**EXAMPLE 2 Find the slope of each line. Which lines are parallel?**

$k_1$

$k_2$

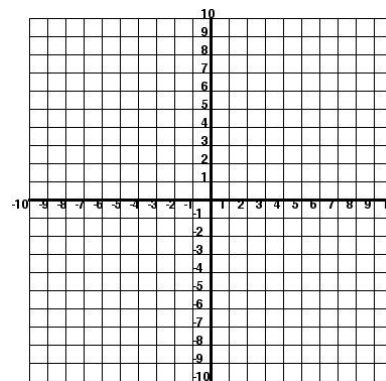
$k_3$



**EXAMPLE 3 Line h passes through (3,0) and (7,6). Graph the line perpendicular to h that passes through (2,5).**

$m =$

$\perp m =$



**EXAMPLE 4** During the climb on the Magnum XL-200 roller coaster, you move 41 feet upward for every 80 feet you move horizontally. At the crest, you have moved 400 feet forward.

- a) Make a table showing the height at every 80 feet it moves horizontally. How high is the roller coaster at the top of its climb?

Horizontal	80	160	240	320	400
Height					

- b) Write a fraction that represents the slope.