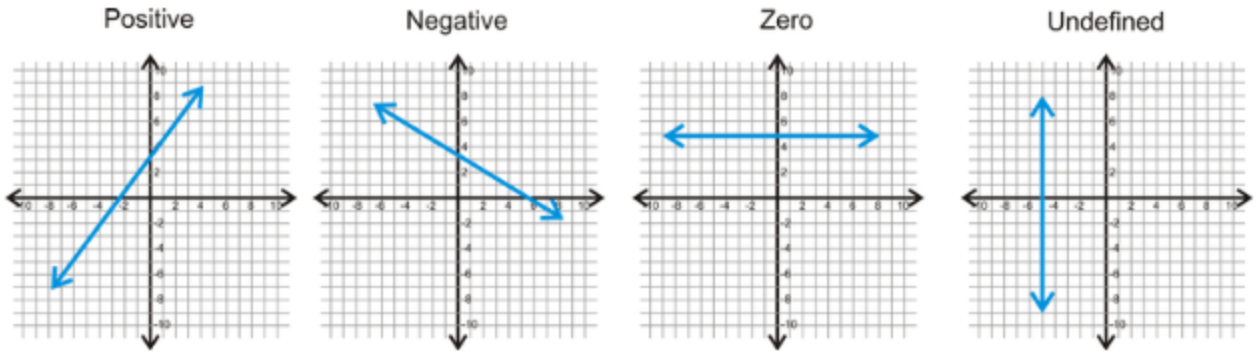
4.02 Slope



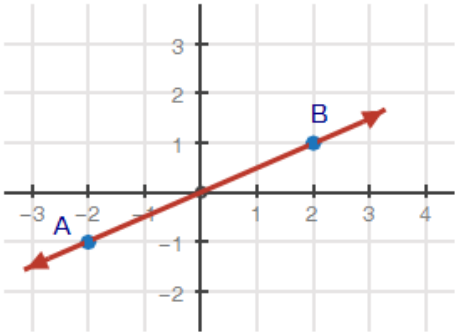
Slope Review Video Click Here	**Example 1** Video Click Here
The _____ of a line can be positive, negative, "0," or undefined. If the slope of a line is "0," it's _____. If the slope of a line is "undefined," then it's _____.	Line AB contains points A (1, 2) and B (-2, 6). Find the slope of line AB.

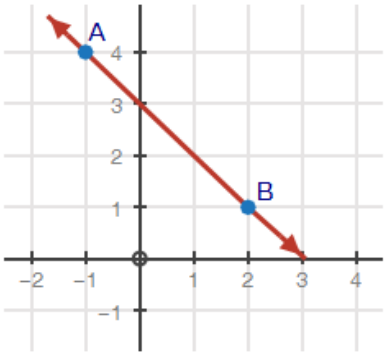
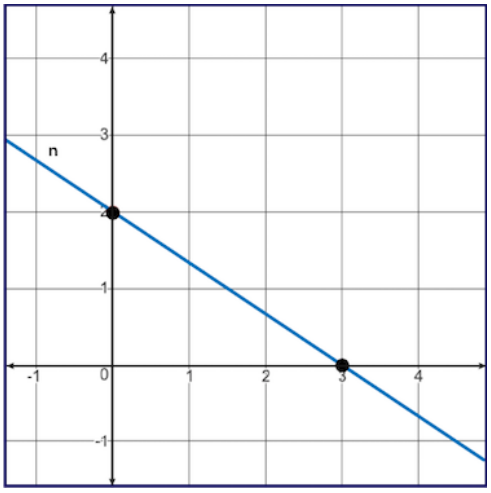
Parallel and Perpendicular Lines Video Click Here	
Parallel lines always have slopes that are _____. If the slope of a line is 3, then the slope of a line parallel to that line is _____.	**Perpendicular lines** have slopes that are _____ _____, and their product is always _____. If the slope of a line is 5, then the slope of a line perpendicular to that line is _____.

Parallel & Perpendicular Slope Practice Video Click Here		
Parallel Slope	Slope	Perpendicular slope
	$\frac{1}{3}$	
	-4	
	$\frac{2}{9}$	
	-6	
	0	
	Undefined	

Equation of Lines Review Video Click Here	
There are several ways to write the equation of a line. Here are the three most common ways: ***Slope-intercept form***: y = mx + b where m is the _____ and b is the _____. ***Point-slope form***: y − y1 = m(x − x1) where (x1, y1) is a _____ on the line and m is the _____. ***Standard Form***: Ax + By = C where A, B, and C must be integers. This means no _____ or _____. A must also be _____.	

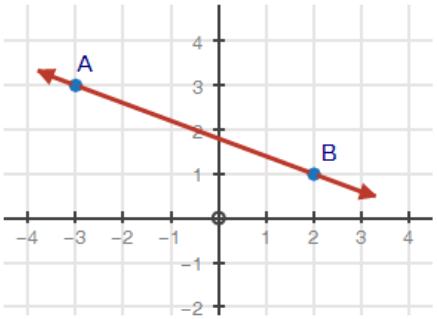
Writing the Equation of a Line

Practice 1 Video Click Here	**Practice 2** Video Click Here
The equation of line GH is y = −8x + 3. Write an equation of a line parallel to line GH in slope-intercept form that contains point (3, −2).	Write the equation of a line parallel to the following line that contains the point (4, −6). 

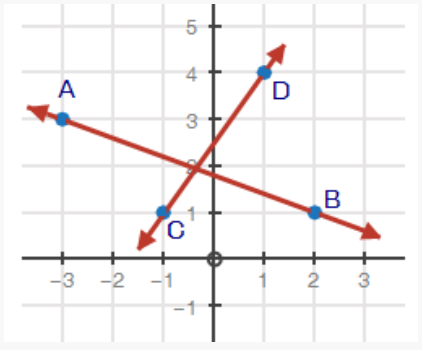
Practice 3 Video Click Here	**Practice 4** Video Click Here
The equation of line TU is y = 2x + 7. Write an equation of a line perpendicular to line TU in slope-intercept form that contains point (2, 3).	Write an equation of a line perpendicular to the following line that contains the point (4, −3). 
Practice 5 Video Click Here	**Practice 6** Video Click Here
Find the equation of a line that is perpendicular to line n that contains (P, Q). Write your answer in standard form. 	Write the equation of a line in standard form that has x-intercept (*A*, 0) and y-intercept (0, *B*).

More Practice Try on your own then check with Video **Click Here**

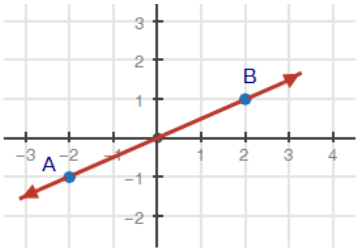
Find the slope of line AB



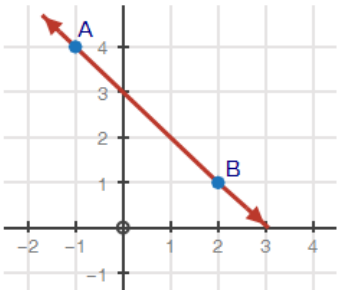
Classify the lines below as parallel, perpendicular, or neither. Provide proof of your answer.



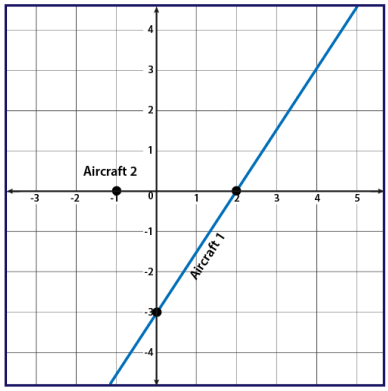
Write the equation of a line parallel to the following line that contains the point (4, −6).



Write an equation of a line perpendicular to the following line that contains the point (4, −3).



An air traffic controller is monitoring two aircraft on a radar screen. The flight path of the first aircraft, aircraft 1, is shown. A second aircraft, aircraft 2, is currently at (−1, 0) and will need to travel in a direction parallel to that of aircraft 1 so that they do not crash into one another. Find the equation of the flight path of aircraft 2 in standard form.



Extra Practice for 4.02