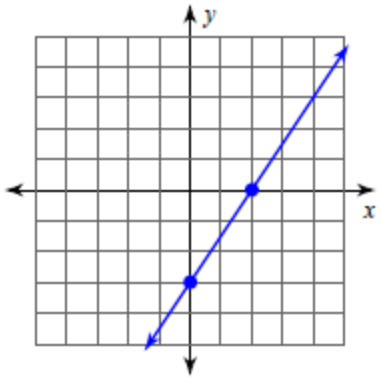
Equations of Lines Reference Sheet

Given a graph:

1. Find the y-intercept
2. Find the slope
3. Plug into slope-intercept form



Given a slope and a y-intercept:

1. Plug into slope-intercept form

$slope: \frac{2}{3}$
$y-intercept: -4$

Given a point and a slope:

1. Plug into point-slope form
2. Distribute on the right
3. Solve for y

$slope: 5$
$point\ on\ the\ line: (4, -3)$

Given an x-intercept and a y-intercept:

1. Write your intercepts as ordered pairs…remember that x-intercept is when y=0 and y-intercept is when x=0!
2. Find the slope using those ordered pairs
3. Plug your slope and y-intercept into slope-intercept form

$x-intercept: -4$
$y-intercept: 8$

Given two points:	1. Find the slope using the two points you are given 2. Pick one of your points and call it (x_1, y_1) 3. Plug your slope and chosen point into point-slope form 4. Distribute on the right 5. Solve for y	$(3, -2)\ and\ (-6, 1)$
Given a zero slope and a point:	1. Remember HOY-horizontal lines have zero slope and they are always y= # 2. Circle the y-coordinate of the point you are given 3. Your equation will be y= that number	$slope$: 0 $point\ on\ the\ line$: $(-6, -3)$
Given an undefined slope and a point:	1. Remember VUX-vertical lines have undefined slope and they are always x= # 2. Circle the x-coordinate of the point you are given 3. Your equation will be x= that number	$slope: undefined$ $point\ on\ the\ line$: (7,2)
Given parallel and/or perpendicular conditions:	1. Make sure that the equation that you are given is solved for y 2. Identify the slope of the line you are given 3. Parallel lines have the same slope-use the exact same slope you are given 4. Perpendicular lines have opposite reciprocal slopes-take the slope you are given, flip it over and change the sign	$perpendicular\ to$: $y = 2x - 4$ $point\ on\ the\ line$: $(8, -6)$