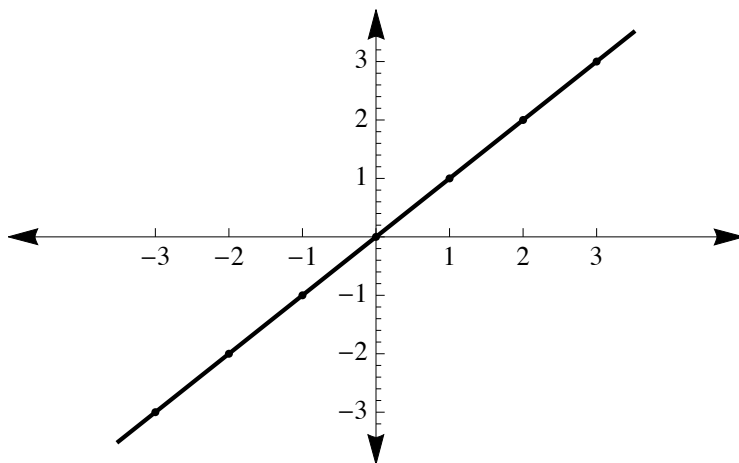


## Slope Function for $f(x) = x$

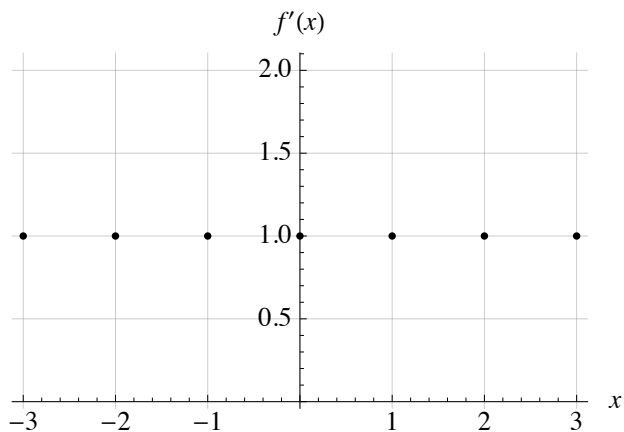
The plot below shows the function  $f(x) = x$ , which is clearly a line. We could choose any point on the line and try to draw a tangent line, but since the slope of a line is a constant, the tangent line is going to have the same slope as the line, so it doesn't really make sense to try and draw tangent lines.



It is pretty easy to find the slope at any point:

$x$	-3	-2	-1	0	1	2	3
$m$	1	1	1	1	1	1	1

There is clearly a pattern in these values, which is even more obvious if we graph the points:



From the table of slopes and the graph of the slopes, the pattern actually gives us the expression for the slope function:

$$f'(x) = 1$$