	CLASS OF FUNCTION	MATHEMATICA SYNTAX TO PRODUCE PICTURE
CURVES	Calculus I/II function $f : \mathbb{R} \to \mathbb{R}$, i.e. $y = f(x)$	Plot[$f(x)$, x, $xmin$,$xmax$]
	Graph of equation $f(x, y) = c$	ContourPlot[$f(x, y) == c$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}]
	Polar function $r = f(\theta)$	PolarPlot[$f(\theta)$, θ,θmin,θmax]
	Parameterized curve in a plane $\mathbf{f} : \mathbb{R} \to \mathbb{R}^2$, i.e. $(x, y) = \mathbf{f}(t)$	ParametricPlot[$\mathbf{f}(t)$, {t, $tmin$, $tmax$}] ParametricPlot[{$x(t)$, $y(t)$}, {t, $tmin$, $tmax$}]
	Parameterized curve in 3D space $\mathbf{f} : \mathbb{R} \to \mathbb{R}^3$, i.e. $(x, y, z) = \mathbf{f}(t)$	ParametricPlot3D[{$x(t)$, $y(t)$, $z(t)$}, {t, $tmin$, $tmax$}]
PICTURES ASSOCIATED TO SURFACES	surface $f : \mathbb{R}^2 \to \mathbb{R}$, i.e. $z = f(x, y)$	graph of surface: Plot3D[$f(x, y)$,{x, $xmin$, $xmax$},{y, $ymin$, $ymax$}]
		graphs of traces parallel to the x-axis, where y ranges from $ymin$ to $ymax$: Manipulate[Plot[$f(x, y)$, {x, $xmin$, $xmax$}, PlotRange -> {$zmin$, $zmax$}, AspectRatio -> Automatic], {y, $ymin$, $ymax$}]
		graphs of traces parallel to the y-axis, where x ranges from $xmin$ to $xmax$: Manipulate[Plot[$f(x, y)$, {y, $ymin$, $ymax$}, PlotRange -> {$zmin$, $zmax$}, AspectRatio -> Automatic], {x, $xmin$, $xmax$}]
		level curve to surface at height $z = c$: ContourPlot[$f(x, y) == c$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}]
		contour plot of surface with z-values from a to b: ContourPlot[$f(x, y) ==$ Range[a,b], {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}]
		contour plot with labelled level curves at heights a, b, ...: ContourPlot[$f(x, y)$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}, Contours -> {a,b,...} ContourShading -> None, ContourLabels -> True]
	$f : \mathbb{R}^3 \to \mathbb{R}$ i.e. $w = f(x, y, z)$	level surface at $w = c$: ContourPlot3D[$f(x, y, z) == c$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}, {z, $zmin$, $zmax$}]
VECTOR FIELDS	planar vector field $f : \mathbb{R}^2 \to \mathbb{R}^2$, i.e. $(u, v) = \mathbf{f}(x, y)$	VectorPlot[$\mathbf{f}(x, y)$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}]
	3D vector field $\mathbf{f} : \mathbb{R}^3 \to \mathbb{R}^3$, i.e. $(u, v, w) = \mathbf{f}(x, y, z)$	VectorPlot3D[$\mathbf{f}(x, y, z)$, {x, $xmin$, $xmax$}, {y, $ymin$, $ymax$}, {z, $zmin$, $zmax$}]