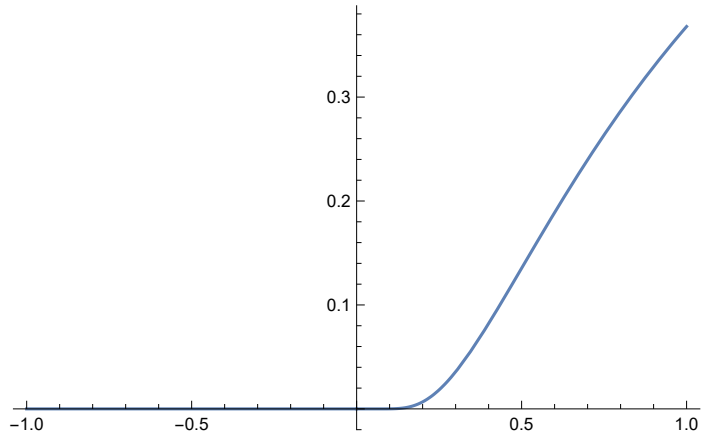


Pensieve header: A demo of the basic ∞ Lego blocks.

```
(Alt) In[ ]:=  $\sigma[x_] := \begin{cases} e^{-1/x} & x > 0 \\ 0 & x \leq 0 \end{cases}$ 
```

```
Plot[ $\sigma[x]$ , {x, -1, 1}]
```

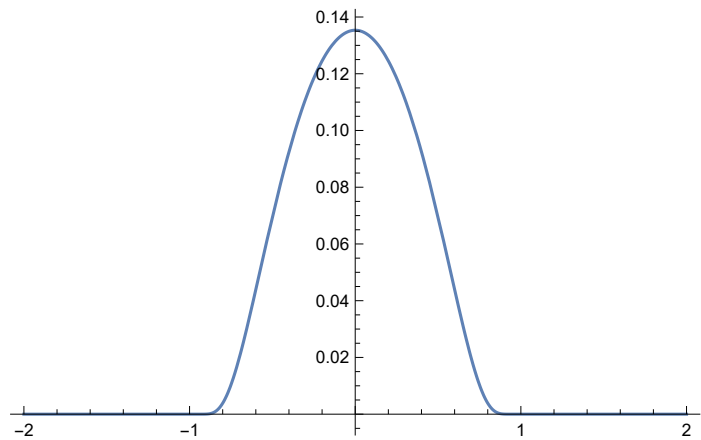
(Alt) Out[]:=



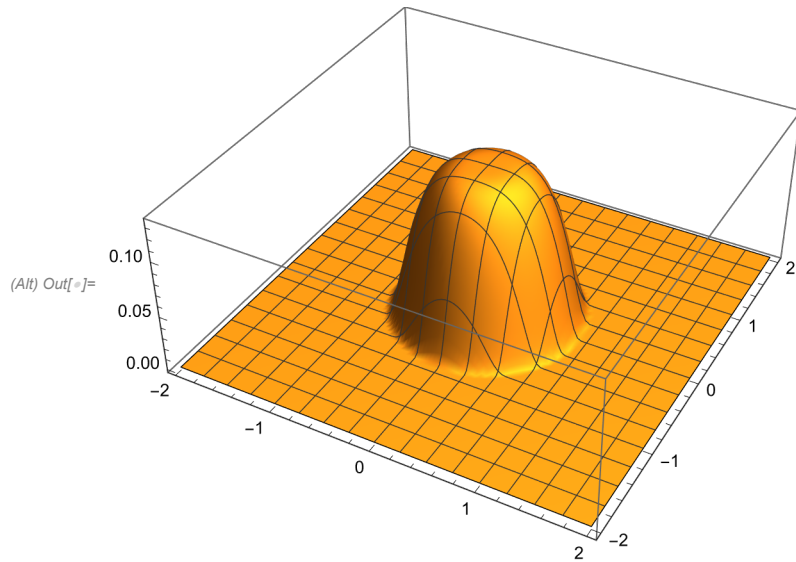
```
(Alt) In[ ]:=  $\beta_{\epsilon}[x_] := \sigma[\epsilon + x] \sigma[\epsilon - x]$ 
```

```
Plot[ $\beta_1[x]$ , {x, -2, 2}]
```

(Alt) Out[]:=



```
(Alt) In[ ]:=  $\beta_{a, \epsilon}[z_] := \beta_{\epsilon^2}[\text{Norm}[z - a]^2]$ 
Plot3D[ $\beta_{0,1}[\{x, y\}]$ , {x, -2, 2}, {y, -2, 2},
PlotPoints → 100, PlotRange → All, Exclusions → None]
```



```
(Alt) In[ ]:=  $f[x_, y_] := \text{If}[x^2 < y < 3x^3, \frac{\beta_{2x^2, x^2}[y]}{\beta_{2x^2, x^2}[2x^2]}, 0];$ 
Plot3D[f[x, y], {x, -0.1, 1}, {y, -0.1, 1},
PlotPoints → 100, PlotRange → All, Exclusions → None]
```

