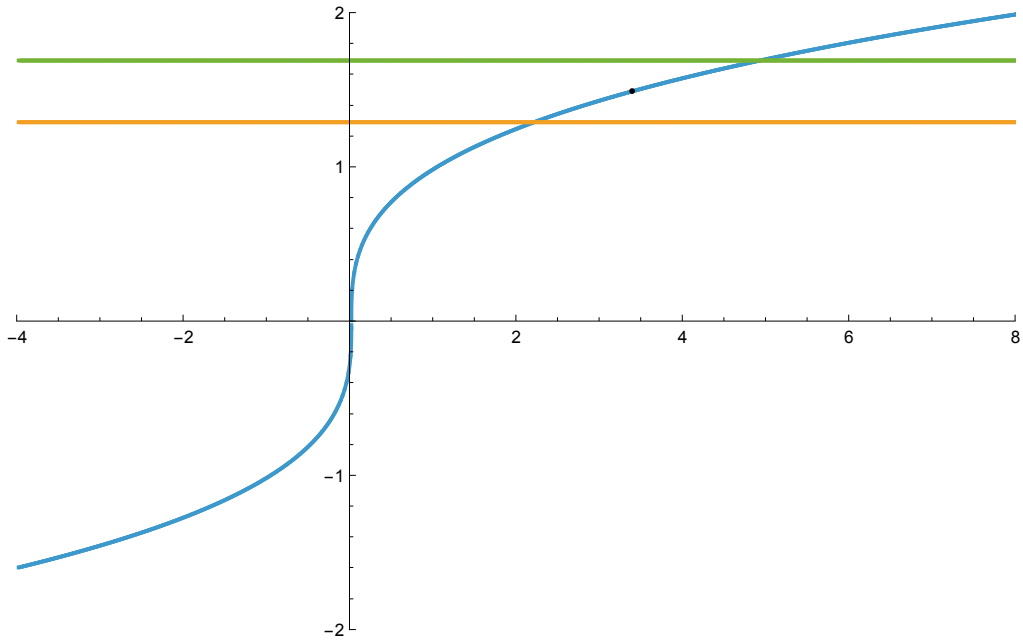In[79]:= `f[x_] := Sign[x] Abs[x]`$^{1/3}$ `(* This is how to do x`$^{1/3}$ ` in Mathematica *)`

In[84]:= `Show[{Plot[{f[x], 1.3, 1.7}, {x, -4, 8}, PlotRange → {{-4, 8}, {-2.0, 2.0}},`
     `PlotPoints → 50 000], Graphics[Point[{3.375, 1.5}]]}]`

Out[84]=



The question is, if you want $|f(x) - 1.5| < 0.2$, what range must $x$ be in?

It will help to know these cubes:

In[81]:= `1.7`$^3$

Out[81]=
     `4.913`

In[82]:= `1.3`$^3$

Out[82]=
     `2.197`

Knowing those cubes tells you that $f(4.913) = 1.7$ and $f(2.197) = 1.3$.