

**Assignment 3.**

1.  $x > \log_{0.8} 0.5 = 3.11$

2.  $\frac{x}{y} = \frac{\ln 2.5}{\ln 1.25} = 4.11$

3.  $z = \frac{y+2}{y^2}$

4.  $\text{Min} = \frac{3}{4}, \text{max} = 57.$

5. (a)  $x = \frac{\ln 2}{\ln 4 - \ln 3} = 2.409.$

(b)  $x = 0.802$

(c)  $x = \pm 1.585$

6. Domain:  $x \in \mathbb{R}$ , range:  $-1 < y < 1.$