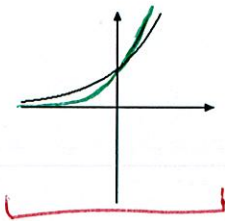


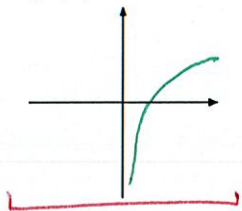
[1 PTS] The graph of $f(x) = 3^x$ is shown below.

On the same grid, sketch the graph of $f(x) = 4^x$.



[2 PTS] Sketch the following graphs.

$$f(x) = \ln x$$



$$f(x) = \left(\frac{5}{2}\right)^x$$



[7 PTS] Fill in the blanks. Write **DNE** if the value is undefined.

$$\log_9 \frac{1}{3} = \underline{-\frac{1}{2}}$$

$$\log_3 81 = \underline{4}$$

$$\log_5 5^0 = \underline{0}$$

$$\log_2 \frac{1}{8} = \underline{-3}$$

$$\log_{16} 2 = \underline{\frac{1}{4}}$$

$$7^{\log_7 (-1)} = \underline{\text{DNE}}$$

$$\log 10,000,000 = \underline{7}$$