## Exponential Functions

While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

1. Graph $f(x)=3^{x}$.

2. What graph transformations are needed to transform $f(x)=3^{x}$ into
(a) $a(x)=2 \cdot 3^{x}$
(b) $b(x)=4 \cdot 3^{x}+1$
(c) $c(x)=3^{x+2}$
3. Given that the graph of $g(x)$ (shown below) is an exponential function of the form $y=b^{x}$ that has been vertically shifted, find the equation for $g(x)$.

4. Assume you have $\$ 10,000$ and a savings account offer with and effective annual interest rate of $4 \%$. How much money would you have after one year in the bank if the money is compounded:
(a) annually?
(b) twice a year?
(c) daily?
(d) three times a day?
