Exponential functions - represented by the following equation:

\[ f(x) = ab^x \]

where \( a \neq 0, \ b > 0, \ b \neq 1 \)

Exponent review:

Anything raised to the zero power is always one:

\[ 5^0 \quad (3x^2y)^0 \quad \frac{3x^0}{3^{(1)}} \]

Negative exponents - when working with negative exponents, we take the reciprocal of the base and change the exponent to a positive:

\[ 5^{-3} \quad \left(\frac{3}{2}\right)^{-2} \quad \left(\frac{5}{7}\right)^{-2} \]
\[ \left(\frac{1}{5}\right)^3 \quad \left(\frac{2}{3}\right)^2 \quad \left(\frac{7}{5}\right)^2 \]
\[ \frac{1}{125} \quad \frac{2}{3} \cdot \frac{2}{3} \quad \frac{4}{9} \quad \frac{49}{25} \]