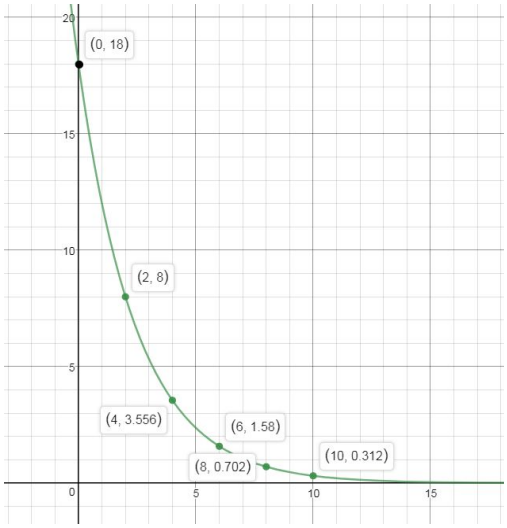
AA4: Logarithms

Questions	**Notes**
I can write an exponential equation from: 1. A table 2. A graph  3. A description: a. $10000 is invested in a fund that pays 5% interest every year. b. A 400 mg dose of ibuprofen is metabolized 55 percent every 2 hours.	
I can translate between exponential and logarithmic forms. 1. Write $y = 4^x$ in logarithmic form. 2. Write $y = log\ _3 x$ in exponential form.	
I can find the inverses of exponential and logarithmic functions. 1. FInd the inverse of $f(x) = 2(5^x) - 2$ 2. Find the inverse of $g(x) = 2log_8(x + 1)$	

x	0	2	4	6
y	4	12	36	108

I can solve equations using the definition of exponents and logarithms. 1. Solve for x: a. $3^x + 4 = 31$ b. $2(5^{4x}) - 1 = 249$ 2. Solve for x: a. $log_{10}(x + 2) = 2$ b. $0.25\ log_4(3x) - 5 = 11$	
I can graph and find characteristics (intercepts, asymptotes) of exponential and logarithmic functions. 1. Find the y-intercept and horizontal asymptote of $k(x) = 3(2^x) - 12$ 2. Find the x-intercept(s) and vertical asymptote of $m(x) = 2log_4(x + 2) - 6$	
I can solve problems using exponential and logarithmic functions. 1. You drink a beverage with 120 mg of caffeine. Each hour, the caffeine in your system decreases by about 12%. How long until you have 10mg of caffeine? 2. A cup of water reaches boiling point at 100^oC and cools to 50^oC in 15 minutes. If room temperature is 18.3^oC, how long will it take the water to fall below 37^oC?	