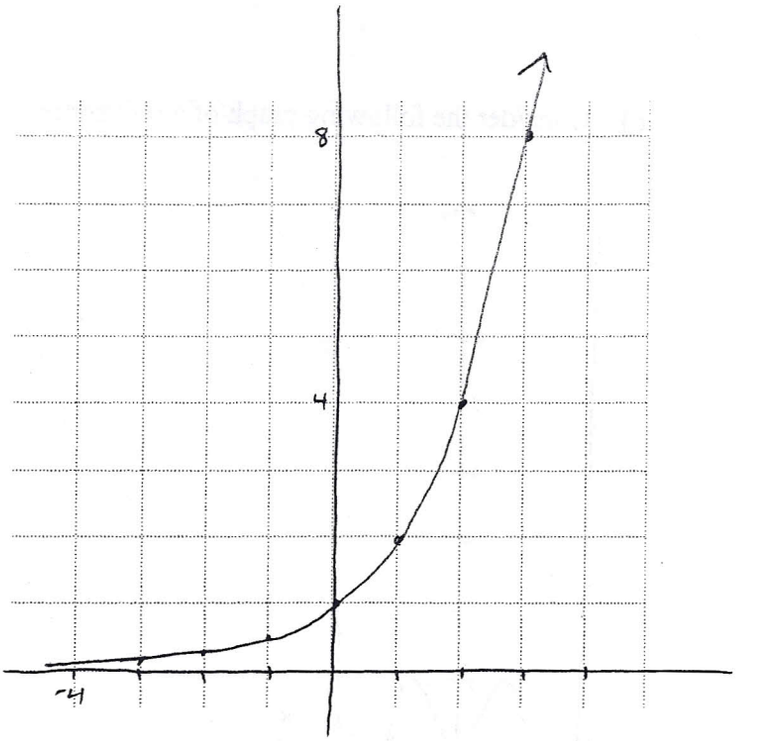
8) Graph $f(x) = 2^x$



9) The annual maintenance cost of a machine is related to the number of years it is run, t, by the equation $g(t) = 1000e^{0.05t}$. Find the annual maintenance cost after the machine has run for 2 years.

$g(2) = 1000e^{.1} = 1105.17$

10) A certain car depreciates in a way that modeled by an exponential function $f(t) = y_0 b^t$. In 1999 the car cost \$30,000 and in 2004 years it is worth \$21,000. Consider 1999 as year zero and find the desired mathematical model.

$y = 30000b^t$

$21,000 = 30,000\,b^5$

$\frac{21}{30} = b^5$

$\frac{7}{10} = b^5$

$.9311 = b$

$y = 30,000\,(.9311)^t$