ContourPlot[0.4 * 2^r * (0.7 * (log_2(100 * (2^r)^1.5) − x) + 1) == 2^x, {r, log_2(1000), log_2(1000000000

Input interpretation:

contour plot	$0.4 \times 2^r \left(0.7 \left(\log_2\left(100 \left(2^r\right)^{1.5}\right) - x\right) + 1\right) = 2^x$

Contour plot: