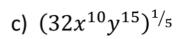## UNIT 4 MCR 3UI  Exam Review

**Be able to graph $y = 2^x$, $y = 3^x$, $y = \left(\frac{1}{2}\right)^x$, $y = \left(\frac{1}{3}\right)^x$ with transformations.

1. Simplify.  Leave only positive exponents.

a) $\dfrac{a^{-3}b^2}{a^{-2}b^{-5}}$

b) $\sqrt{\sqrt{16x^{12}}}$

c) $(32x^{10}y^{15})^{1/5}$

2. Write $\sqrt[5]{x^3}$ in exponential form.

3. Write in radical form, then evaluate – no decimals!!

a) $121^{-5/2}$

b) $\left(\frac{625}{16}\right)^{-3/4}$

4. Solve. (Only trial and error are required.)

$$2^{x+3} = 16^{2x-1}$$