Foundation and Pre-Calculus 10 Name:_____
4.5 and 4.6 Review

Do not leave any negative exponents or decimals in your final answers.

1. Evaluate.

a) 5^{-2} b) $(-3)^{-3}$ c) $\left(\frac{2}{3}\right)^{-2}$

a)_____ b)_____ c)_____

d) $\left(\frac{1}{3}\right)^{-4}$ e) 0.3^{-2} f) $\frac{1}{5^{-2}}$

d)_____ e)_____ f)_____

2. Simplify by writing as a single power.

a) $0.2^{4} \cdot 0.2^{-7}$ b) $\left[\left(-\frac{3}{4}\right)^{2}\right]^{-3} \div \left[\left(-\frac{3}{4}\right)^{4}\right]^{-5}$ c) $\frac{7^{5/3} \cdot 7^{-1/3}}{7^{1/3}}$

a)_____ b)_____ c)_____

3. Simplify each expression, then evaluate:

a) $\left(\frac{5}{3}\right)^{\frac{3}{2}}\left(\frac{5}{3}\right)^{\frac{1}{2}}$ b) $\frac{(-4)^{\frac{2}{3}}}{(-4)^{-\frac{4}{3}}}$ c) $\left[\left(\frac{-6}{5}\right)^{\frac{1}{3}}\right]^{6}$ d) $\frac{0.4^{\frac{3}{4}}}{0.4^{\frac{7}{4}}}$

a)_____ b)_____ c)_____ d)_____

4. Simplify.

a) $m^5n^{-3}\cdot m^2n^2$ b) $\frac{8x^3y^{-5}}{12xy^2}$ c) $\left(a^4b^2\right)^{3/2}$

a)_____ b)_____ c)_____

d) $\left(x^3y^{-3/2}\right)\left(x^{-4}y^{7/2}\right)$ e) $\frac{15x^{-5/2}y^{7/2}}{3x^{1/2}y^{-1/2}}$ f) $\left(\frac{x^2y^4}{x^4y^8}\right)^{1/2}$

d)_____ e)_____ f)_____