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) 6^{-2}

b) $\left(-4\right)^{-3}$

c) $\left(\dfrac{4}{9}\right)^{-1}$

a)_____

b)_____

c)_____

d) $\left(\dfrac{1}{5}\right)^{-4}$

e) 0.5^{-3}

f) $\dfrac{1}{4^{-2}}$

d)_____

e)_____

f)_____

2.   Simplify by writing as a single power.

a) $0.6^4 \cdot 0.6^{-7}$

b) $\left[\left(-\dfrac{4}{5}\right)^2\right]^{-3} \div \left[\left(-\dfrac{4}{5}\right)^4\right]^{-5}$

c) $\dfrac{9^{5/3} \cdot 9^{-1/3}}{9^{1/3}}$

a)_____

b)_____

c)_____

3. Simplify each expression, then evaluate:

a) $\left(\dfrac{3}{2}\right)^{\frac{3}{2}}\left(\dfrac{3}{2}\right)^{\frac{1}{2}}$

b) $\dfrac{(-5)^{\frac{2}{3}}}{(-5)^{-\frac{4}{3}}}$

c) $\left[\left(\dfrac{-12}{5}\right)^{\frac{1}{3}}\right]^{6}$

d) $\dfrac{0.2^{\frac{3}{4}}}{0.2^{\frac{7}{4}}}$

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

4. Simplify.

a) $m^{4}n^{-2}\cdot m^{2}n^{3}$

b) $\dfrac{6x^{4}y^{-3}}{14xy^{2}}$

c) $\left(25a^{4}b^{2}\right)^{\frac{3}{2}}$

a)_____ b)_____ c)_____

d) $\left(x^{3}y^{-\frac{3}{2}}\right)\left(x^{-1}y^{\frac{1}{2}}\right)$

e) $\dfrac{12x^{-\frac{5}{2}}y^{\frac{7}{2}}}{3x^{\frac{1}{2}}y^{-\frac{1}{2}}}$

f) $\left(\dfrac{50x^{2}y^{4}}{2x^{4}y^{8}}\right)^{\frac{1}{2}}$

d)_____ e)_____ f)_____