

Math 10C
Exponent Skills

Name _____

Date _____

1. Expand (show some work) and evaluate.

a) $(-2)^4$

b) -6^2

c) $\left(\frac{1}{3}\right)^4$

d) $\left(\frac{2}{5}\right)^{-2}$

e) $9^{\frac{1}{2}}$

f) $9^{-\frac{1}{2}}$

g) $\left(\frac{8}{27}\right)^{\frac{1}{3}}$

h) $\left(-\frac{8}{27}\right)^{-\frac{1}{3}}$

2. Simplify. Answer with positive exponents.

a) $(4a^3b^2)(3a^3b)$

b) $\frac{12x^8y^6}{6x^2y^4}$

c) $(2x^3y)^4$

d) $(3c^2d^{-3})(-5c^3d)$

e) $\frac{25a^4b^8c^2}{5a^6b^{-2}c^2}$

f) $(-2a^{-2}b^3)^3$

g) $(x^{-2}y^{-1})^4$

h) $\frac{m^{-3}n^4}{m^3n^2}$

i) $\frac{(3x^2y)^2}{(2xy^2)^3}$

j) $\left(\frac{4x^2}{3y^3}\right)^2 \cdot \left(\frac{3}{2x^3y^2}\right)^3$