Simplifying Integer Exponents

Review Negative Exponents:

Take the reciprocal of base and change the sign of the <u>exponent</u>.

$$\frac{x^{-2}}{y^3} = \qquad\qquad\qquad\qquad \frac{x^{-3}}{y^{-2}} =$$

Zero Exponent: $\qquad\qquad x^0 = \qquad\qquad\qquad (10x^2 y^4)^0 =$

Simplify each of the following. Your answers should have no NEGATIVE exponents.

> 1. Multiply the exponents to get rid of parentheses.
> 2. Make all exponents positive.
> 3. Clean up.

1. $\left(3x^{-2}y^{-3}\right)^2 \left(5xy^{-1}\right)^{-3}$

2. $\dfrac{\left(3x^5 y^{-4}\right)^{-2}}{\left(2x^{-2}y^{-3}\right)^3}$

3. $\left(\dfrac{5x^2 y^{-5}}{8x^6 y^{-12}}\right)^2$

4. $\left(\dfrac{6x^3 y^{-2}}{9^0 x^{-5} y^{-6}}\right)^{-3}$