

Simplify the expression, as a positive rational exponent.

$$1.) \frac{x^2}{x^3} = \frac{\cancel{x} \cdot \cancel{x}}{\cancel{x} \cdot \cancel{x} \cdot x} = \boxed{\frac{1}{x}}$$

$$2.) \frac{x^1}{x^4} = x^{-3} = \boxed{\frac{1}{x^3}} \quad \frac{\cancel{x}}{\cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot x} = \frac{1}{x^3}$$

$$3.) x^{-1} = \boxed{\frac{1}{x}}$$

$$4.) x^{-2} = \boxed{\frac{1}{x^2}}$$

$$5.) 2x^{-1} = \boxed{\frac{2}{x}}$$

$$6.) (2x)^{-1} = \boxed{\frac{1}{2x}}$$

$$7.) (2x)^{-3} = \frac{1}{(2x)^3} = \boxed{\frac{1}{8x^3}}$$

$$8.) x^2 y^{-5} = \boxed{\frac{x^2}{y^5}}$$

$$9.) \frac{1}{x^{-2}} = \boxed{x^2}$$

$$10.) \frac{1}{x^{-4}} = \boxed{x^4}$$

Simplify the expression, as a positive rational exponent.

$$11.) \left(\frac{2}{x^{-3}} \right)^4 = \frac{2^4}{x^{-12}} = \boxed{16x^{12}}$$

$$12.) \frac{x^4 y^4}{xy^{-1}} = \boxed{x^3 y^5}$$

$$x^3 y^4 \cdot y = x^3 y^5$$

$$13.) \frac{x^{-3}}{y^{\frac{1}{2}}} = \boxed{\frac{y^{\frac{1}{2}}}{x^3}}$$

$$14.) x^{\frac{1}{5}} = \boxed{\frac{1}{x^{\frac{4}{5}}}}$$

$$15.) \frac{6xy^{\frac{1}{2}}}{2x^{\frac{1}{3}}z^{-5}} = \boxed{3x^{\frac{2}{3}}y^{\frac{1}{2}}z^5}$$

$$16.) \frac{x^3 y^1}{x^{-2} y^{\frac{1}{2}}} = \boxed{x^5 y^{\frac{1}{2}}}$$

$$\frac{x^1}{x^{\frac{1}{3}}} = \frac{x^{\frac{3}{3}}}{x^{\frac{1}{3}}}$$