

8.3 WarmUp

WORKING WITH DIVISION. Simplify. Clearly show work. Use only positive exponents.

$$1) \frac{4yx^3}{8x^{-1}y^5} = \frac{1x^{3+1}y^{1-5}}{2x^4y^{-4}} = \boxed{\frac{x^4}{2y^4}}$$

$$2) \frac{300m^{-5}n^3}{700m^{-1}n^{-2}} = \frac{3m^{-5+1}n^{3+2}}{7} = \frac{3m^{-4}n^5}{7} = \boxed{\frac{3n^5}{7m^4}}$$

$$3) \frac{1}{10xy^{-3}} = \boxed{\frac{y^3}{10x}}$$

$$4) \frac{(+x^4y^2)^2}{+2y^4} = \frac{x^8y^4}{2y^4} = \boxed{\frac{x^8}{4}}$$

$$5) (-3x^2y^{-1})^3 = (-3)^3 x^6 y^{-3} = \boxed{\frac{-27x^6}{y^3}}$$

$$6) (-2x^{-3}y^{-1})^4 = (-2)^4 x^{-12} y^{-4} = \boxed{\frac{16}{x^{12}y^4}}$$

$$7) \left(\frac{-4x^{-3}y^2}{2xy^{-4}}\right)^3 = \frac{(-4)^3 x^{-9} y^6}{2^3 x^3 y^{-12}} = \frac{-64 x^{-12} y^{18}}{8} = \boxed{\frac{-8y^{18}}{x^{12}}}$$

$$8) \left(\frac{3x^4y^3}{-x^2}\right)^3 = \frac{(3)^3 x^{12} y^9}{(-1)^3 x^6} = \boxed{-27x^6y^9}$$

$$9) (2a^3b^2)^{-3} = 2^{-3} a^{-9} b^{-6} = \frac{1}{2^3 a^9 b^6} = \boxed{\frac{1}{8a^9b^6}}$$

$$10) (2x^4y^{-2})^{-2} = 2^{-2} x^{-8} y^4 = \frac{y^4}{2^2 x^8} = \boxed{\frac{y^4}{4x^8}}$$