

Exponents Practice – Challenging Problems

Simplify.

$$1. \left(\frac{2r^3}{s}\right)^2 \left(\frac{s}{r^3}\right)^3$$

$$2. 2a^2(4a^{-2}b^3)^{-3}$$

$$3. \frac{8x^3y^{-5}}{2(4x)^{-1}y^2}$$

$$4. (-4b^{-3})\left(\frac{1}{6}b^2\right)(9b)^{-4}$$

$$5. \frac{(3y^3)(2y^2)^{-2}}{(y^4)^3}$$

$$6. (8x^4y^{-3})\left(\frac{1}{2}x^{-5}y^2\right)$$

$$7. \left(\frac{4a^2b}{a^3b^2}\right)\left(\frac{5a^2b}{2b^4}\right)$$

$$8. (3y^3)^4(4y^2)^{-3}$$

$$9. (2x^2y^{-5})(-6x^{-5}y^3)\left(\frac{1}{3}x^{-1}y^6\right)$$

$$10. \left(\frac{3x^5y^4}{x^0y^{-3}}\right)^2$$

$$11. (4a^2b)^4\left(\frac{-a^3}{2b}\right)^2$$