

Do Not
Write on!

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