

1.2 Practice Set

Simplify each of the following. Assume all variables are non-zero.

Write all answers with positive exponents.

1. $(3x - 1)^0$

2. $-\frac{8y^{12}}{4y^7}$

3. $(-9)^{-2}$

4. $\frac{6t^9}{2t^{-3}}$

5. $\frac{5z^{10}z^{-14}}{z^{-3}}$

6. $8r^4 \cdot 5r^4$

7. $3^{-1} + 4^{-2}$

8. $(-6x^4y)(3x^5)(-2xy^2)$

9. $\frac{4^{-3}s^7}{4^{-1}s^{-3}}$

10. $\frac{15x^{-2}yz^{-7}}{3x^2yz}$

11. $(2^{-1})^3$

12. $(y^3)^{-4}$

13. $(5r^5st^{-3})^{-2}$

14. $\left(\frac{x^{-2}y^8}{z^{-5}}\right)^{-3}$

15. $\left(\frac{2y^5}{y^9}\right)^6$
16. $(6z^4)^2$
17. $\left(\frac{5t^2}{25t^4}\right)^2$
18. $(9x^2y^5)^{-1}(4x^8y^3)$
19. $z^9(z^5xy)^{-4}$
20. $\frac{2^{-3}x^4z^{-2}}{3^{-2}x^8z^{-1}}$

Distributed Practice Problems

Solve each of the following equations for the indicated variable.

21. $z = xy - 3xy^2$ for x
22. $L = S(b + T)$ for b
23. $|z| = 5$
24. $|30 - 18x| = 45$
25. $5 - 8|3m + 7| = -11$