

5-1 Simplify each expression.

1. $y^9 \cdot y^2$

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

3. $(x^3)^2$

4. $(4a^2)^3$

5. $(5a)(6a^2b)(3ab^3) + (4a^2)(3b^3)(2a^2b)$

6. $(3a)(a^2b)^3 + (2a)^2(-a^5b^3)$

5-2 Simplify each expression.

7. $\frac{a^6}{a^2}$

8. $\frac{14a^4b^3}{(7ab)^{-2}}$

9. $\frac{m^3n^2}{2m^3n}$

10. $3x^0$

11. $(3x)^0$

12. $\frac{-3x^3yz^4}{12x^2y^{-1}}$

5-3 Simplify each expression.

13. $\left(\frac{2}{x}\right)^{-2}$

14. $\left(\frac{1}{m}\right)^{-6}$

15. $\left(\frac{2}{3x^2}\right)^{-1}$