

Unit 8 Objective 8 Remediation

Summary of the Exponent Properties	Product of Powers	Power of a Power	Power of a Product
	$a^m \cdot a^n = a^{m+n}$	$(a^m)^n = a^{m \cdot n}$	$(ab)^n = a^n b^n$
Quotient of Powers	Power of a Quotient	Zero Exponent	Negative Exponent
$\frac{a^m}{a^n} = a^{m-n}$	$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$	$a^0 = 1$	$a^{-n} = \frac{1}{a^n}$

By combining properties, simplify and write each expression with positive exponents only.

$$1. \quad (-4y^2)^3 \left(\frac{1}{2}y\right)^2 \qquad 1. \quad \underline{\hspace{2cm}}$$

$$2. \quad (-mn^2)^6 \qquad 2. \quad \underline{\hspace{2cm}}$$

$$3. \quad (-3xy^2)(2x^3)^3 \qquad 3. \quad \underline{\hspace{2cm}}$$

$$4. \quad (-5a^3b)(-ab^2)^3 \qquad 4. \quad \underline{\hspace{2cm}}$$

$$5. \quad (2x^3y^2)^4 (2x^2)^2 \qquad 5. \quad \underline{\hspace{2cm}}$$

$$6. \quad \left(\frac{a^2}{b}\right)^4 \qquad 6. \quad \underline{\hspace{2cm}}$$

$$7. \quad \left(\frac{4f^2}{g^3}\right)^2 \qquad 7. \quad \underline{\hspace{2cm}}$$

$$8. \quad \left(\frac{4n^2}{8n^4}\right)^3 \qquad 8. \quad \underline{\hspace{2cm}}$$

$$9. \quad \left(\frac{-12gh^2}{4h^3}\right)^2 \qquad 9. \quad \underline{\hspace{2cm}}$$

$$10. \left(\frac{xy}{5} \right)^2 \left(\frac{10}{xy^2} \right)$$

10. _____

$$11. \left(\frac{8p^2q}{24q} \right)^2$$

11. _____

$$12. \left(10^3 \cdot 10^{-4} \right)^2$$

12. _____

$$13. x^0 y^2 z^{-3}$$

13. _____

$$14. \frac{-15v^5w^3}{25v^7w^0}$$

14. _____

$$15. \left(-3a^3b^2 \right)^0 \left(-7a^5b \right)^2$$

15. _____

$$16. \frac{14m^{-3}}{2m}$$

16. _____

$$17. \frac{\left(3x^{-2}y^{-1} \right)^3}{18x^3y^2}$$

17. _____

$$18. \frac{10 \left(-4a^5b \right)^2}{2a^0b^2}$$

18. _____

$$19. \frac{5^2 \left(5^0 \right)^3}{5^{-2}}$$

19. _____

$$20. \left(\frac{a^{-2}}{2b^{-3}} \right)^{-3}$$

20. _____

$$21. \frac{\left(6q^{-4} \right) \left(q^3 \right)^{-2}}{-3q^{-10}}$$

21. _____