

Exponents

Practice

Exponent Properties
Exponential Property Summary
Multiplying and Dividing Monomials

Exponent Properties

Problem #1: Simplify the expression.

$$a^6 \cdot a^6 \cdot a^2$$

A. a^{14}

B. a^{36}

C. a^{72}

D. $\frac{1}{a^{14}}$



Problem #2: Simplify the expression.

$$(-3p^2)^5$$

A. $-3p^{10}$

B. $-3p^7$

C. $-243p^{10}$

D. $-243p^7$

Exponent Properties

Problem #3: Simplify the expression.

$$(st)^4$$

A. st^4

B. $4st$

C. s^4t

D. s^4t^4



Problem #4: Simplify the expression.

$$\left(\frac{2x^3}{3}\right)^3$$

A. $\frac{2x^9}{3}$

B. $\frac{8x^9}{27}$

C. $\frac{8x^6}{27}$

D. $\frac{2x^6}{3}$

Exponent Properties

Problem #5: Simplify the expression.

$$\frac{w^8}{w^2}$$

A. w^4

B. $\frac{1}{w^6}$

C. w^{10}

D. w^6



Problem #6: Simplify the expression.

$$(5g^{-3})(4g^{-4})$$

A. $\frac{20}{g^7}$

B. $\frac{20}{g^{12}}$

C. $20g^7$

D. $20g^{12}$

Exponential Property Summary

Product of Powers

Problem #7: Simplify the expression.

$$a^4 \cdot a^5$$

A. a^9 B. a^{20}

Quotient of Powers

Problem #8: Simplify the expression.

$$\frac{a^{12}}{a^7}$$

A. a^{-5} B. a^5

Power of a Power

Problem #9: Simplify the expression.

$$(a^2)^6$$

A. a^8 B. a^{12}

Powers of a Product

Problem #10: Simplify the expression.

$$(ab)^8$$

A. a^8b^8 B. ab^8

Power of a Fraction

Problem #11: Simplify the expression.

$$\left(\frac{a}{b}\right)^3$$

A. a^3b^3 B. $\frac{a^3}{b^3}$

Negative Exponents

Problem #12: Simplify the expression.

$$a^{-9}$$

A. $\frac{1}{a^9}$ B. $\frac{1}{a^{-9}}$



Zero Exponent

Problem #13: Simplify the expression.

$$6^0$$

A. 0 B. 1

Multiplying and Dividing Monomials

Problem #14: Simplify the expression.

$$(3a^4)(2a^5)$$

A. $5a^9$

B. $6a^9$

C. $5a^{20}$

D. $6a^{20}$



Problem #15: Simplify the expression.

$$\frac{x^3y^5}{xy^3}$$

A. x^2y^2

B. x^3y^2

C. x^4y^8

D. xy

Multiplying and Dividing Monomials

Problem #16: Simplify the expression.

$$\frac{w^3}{w^{12}}$$

- A. w^4 B. $\frac{1}{w^9}$ C. w^9 D. w^{15}



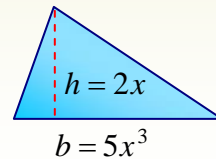
Problem #17: Simplify the expression.

$$\frac{5a^4b^2}{10a^3b^5}$$

- A. $\frac{a^7}{2b^7}$ B. $\frac{2b^3}{a}$ C. $\frac{a^3}{2b}$ D. $\frac{a}{2b^3}$

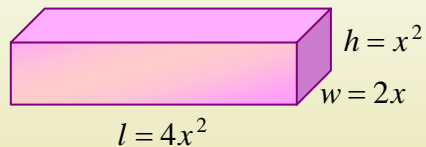
Multiplying and Dividing Monomials

Problem #18: State the letter of the expression that represents the area of the figure given below. $A = \frac{1}{2}bh$



- A. $10x^4$ B. $10x^3$ C. $5x^4$ D. $5x^3$

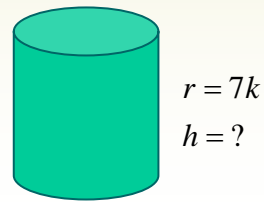
Problem #19: State the letter of the expression that represents the volume of the figure given below. $V = lwh$



- A. $8x^4$ B. $6x^4$ C. $6x^5$ D. $8x^5$

Multiplying and Dividing Monomials

Problem #20: Write an expression to represent the height of the cylinder given below. $V = \pi r^2 h$



$$V = 49k^{10}\pi$$

- A. $7k$ B. $49k^2$ C. k^8 D. $k^{10}\pi$

Problem #21: Which expression is equal to the given expression?

$$\frac{(2x)(7y)}{6}$$

- A. $\frac{56}{24xy}$ B. $\frac{56x^3y^4}{24x^2y^3}$ C. $\frac{14x^2y^3}{6x^3y^4}$ D. $\frac{42x^3y^4}{18x^2y^2}$

Answers

Problem #1: Choice "A".

Problem #2: Choice "C".

Problem #3: Choice "D".

Problem #4: Choice "B".

Problem #5: Choice "D".

Problem #6: Choice "A".

Problem #7: Choice "A".

Problem #8: Choice "B".

Problem #9: Choice "B".

Problem #10: Choice "A".

Problem #11: Choice "B".

Problem #12: Choice "A".

Problem #13: Choice "B".

Problem #14: Choice "B".

Problem #15: Choice "A".

Problem #16: Choice "B".

Problem #17: Choice "D".

Problem #18: Choice "C".

Problem #19: Choice "D".

Problem #20: Choice "C".

Problem #21: Choice "B".

