



Practice

8.2 Laws of Exponents: Powers and Products

Simplify each expression.

- $(4y)^2$ _____
- $(5^2)^3$ _____
- $(-y^5)^4$ _____
- $(a^2)^5$ _____
- $(y^2)^3$ _____
- $(w^2)^2$ _____
- $(w^4)^6$ _____
- $(-8c^5)^2$ _____
- $(-3h^9)^3$ _____
- $(-y^4d^6)^8$ _____
- $(-c^5h^6)^3$ _____
- $(-15h^9k^7)^2$ _____
- $(k^9)^5(k^3)^2$ _____
- $(3y^6)^2(x^5y^2z)$ _____
- $(4h^3)^2(-2g^3h)^3$ _____
- $(14a^4b^6)^2(a^6b^3)^7$ _____

Evaluate each monomial for $x = 5$, $y = -1$, and $z = -4$.

- y^4 _____
- $3x^3$ _____
- $2y^2$ _____
- z^2 _____
- $(yz)^2$ _____
- $(yx)^2$ _____
- x^2z^2 _____
- y^x _____
- $25 \cdot -y^x$ _____

26. What is the area of a square if each edge of the square has a length of $3a^5$?

27. What is the area of a rectangle if one side has a length of $12x^3$ and the other side has a length of $6x^2$?

Find the volume of the cube for each edge length, e .

28. $e = 5y^4$ _____

29. $e = 3x^7y^5$ _____

