

Name: _____

Period: _____

P2 Exponents Practice

1) Fill in the blanks. You should get to know these values as well as you know the times tables. There is a quizlet on [scevmath.org](https://www.scevmath.org) if you took a while to fill this section out.

$1^2 =$ $6^2 =$ $11^2 =$ $16^2 =$ $1^3 =$ $6^3 =$ $1^4 =$

$2^2 =$ $7^2 =$ $12^2 =$ $17^2 =$ $2^3 =$ $7^3 =$ $2^4 =$

$3^2 =$ $8^2 =$ $13^2 =$ $18^2 =$ $3^3 =$ $8^3 =$ $3^4 =$

$4^2 =$ $9^2 =$ $14^2 =$ $19^2 =$ $4^3 =$ $9^3 =$ $4^4 =$

$5^2 =$ $10^2 =$ $15^2 =$ $20^2 =$ $5^3 =$ $10^3 =$ $5^4 =$

Simplify each expression.

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

3) $64(-2)^{-6}$

4) $(2(x+y)^2)^0$

5) $\frac{x^{n+1}}{x^{n-2}}(x+y)^2$

6) $\left(\frac{3^{-3}a^{11}b^{-4}c^5}{9^2a^{-5}b^{-2}c}\right)^{-1}(4a(b^2cd^{-2})^3)^2$

7) $\frac{a^{4n+3}b^{2n-1}}{(a^{2n+1}b^{3+n})^2}$

$$8) 2^{-6n} \cdot 2^{2n} \cdot (2^{(2n)})^2$$

$$9) \left(\frac{(x+y)^4 x^{-3} y^2}{(x+y)^2 x^{-7} y^4} \right)^{-2}$$

Convert each number to scientific notation.

$$10) 983 \text{ trillion}$$

$$11) 0.0000000000068$$

$$12) 12$$

Write each number as a decimal.

$$13) 4.75 \times 10^{11}$$

$$14) 1.08 \times 10^{-7}$$

$$15) 8.9 \times 10^9$$

Simplify each expression.

$$16) (5.25 \times 10^9)(4.0 \times 10^{-3})$$

$$17) \frac{3.6 \times 10^{12}}{1.2 \times 10^{-3}}$$

$$18) \sqrt{8 \times 10^{12}}$$