



# Exponents work sheet

By Ms. Nooch

Name \_\_\_\_\_ Class \_\_\_\_\_ No. \_\_\_\_\_

## Simplification

1.  $a^x \cdot a^y \cdot a^z =$  \_\_\_\_\_

2.  $\frac{3^x}{27^y} =$  \_\_\_\_\_

3.  $\frac{(x^2y^2)}{(y^{-3}z)^3} =$  \_\_\_\_\_

4.  $2^x + 2^x + 2^x + 2^x =$  \_\_\_\_\_

5.  $\frac{x^{a^2}}{(x^a)^2} =$  \_\_\_\_\_

2. What is the value of  $((2^{-1} - 2)^2)^{-1}$  ?

3. If  $4x - 2y = 5$ , What is the value of  $\frac{16^{2x}}{4^{2y}}$  ?

4. If  $p$ ,  $q$  and  $r$  are positive integers such that  $x = p^{\frac{q}{2}}$  and  $y = p^r$ , then  $x^2y = ?$

5. If  $a^{-4} = 16$  then  $a = ?$