Power Rules

① Zero Exponent

$2^0 = 1$

② Power of a Power (multiply the exponents)

$(3^4)^5 = 3^{20}$

③ Product Rule (add exponents)

$5^3 \times 5^4 = 5^7$

④ Quotiet (subtract exponents

$5^8 \div 5^3 = 5^5$

⑤ Power of a Product (multiply)

$(2^5 \times 3^4)^2 = 2^{10} \times 3^8$

⑥ Power of a Quotient

$\left(\frac{3^2}{5^6}\right)^3 = \frac{3^6}{5^{18}}$

1. Complete sheets from before Christmas
2. Homework...page 1 of handout

13. $4^9 \times 4^{-5} = 4^4$

12. a) $10^{-3} = \frac{1}{10^3}$

$= \frac{1}{1000}$

g) $\left(\frac{1}{10}\right)^{-2} = \left(\frac{1}{100}\right)^{-1}$

$= \frac{100}{1}$

$= 100$

1.) $100 = 10^2$

$1000 = 10^3$

$\text{gogol} = 10^{100}$

1. $(9k^3g^2)^2 =$

$=$

2. $(2h^2 \cdot h \cdot 3)^3 =$

$=$

3. $(4h^2 \cdot 3h \cdot h^3)^2 =$

$=$