

Without your calculators evaluate the following expressions:

$$[-(-3)^{3}-(4)^{3}]^{2}-6^{3}+(-3)^{2}+5(-3)^{2}+15$$

$$[-(-8)-(-64)]^{2}-216+45(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-54+3$$

$$[-(-8)^{2}-(-64)]^{2}-54+3$$

$$[-(-8)^{2}-(-64)]^{2}-216+15(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-216+15(4)^{2};$$

$$[-(-8)^{2}+(-3)^{2}+5(-3)^{2}+15$$

$$[-(-8)^{2}-(-64)]^{2}-216+15(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-216+15(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-216+15(4)^{2};$$

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$$[-(-8)^{2}-(-64)]^{2}-216+13(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-216+13(4)^{2};$$

$$[-(-8)^{2}-(-64)]^{2}-216+13($$





Write each expression as a product and then evaluate the following:

3) 
$$(-5)^{2}$$
 x  $(-5)^{4}$   
 $(-5)(-5)(-5)(-5)(-5)(-5)$   
 $|5625(-5)^{4}$ 

#### Exponent Law for a Product of Powers





To multiply powers with the same base, add the exponents.

$$a^m \times a^n = a^{m+n}$$

must be the same base

The variable "a" is any interger, except 0.

The variable "m" and "n" are any whole numbers.





# Write each of the following as a single power and then evaluate.

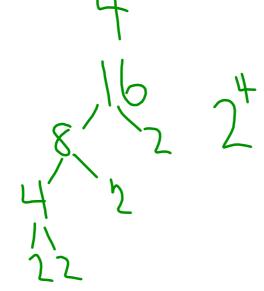
1) 
$$7^{2} \times 7^{4}$$
 2)  $(-2)^{5} \times (-2)^{3}$  3)  $4^{5} \times 4^{1}$   $(-2)^{8}$   $($ 

# What happens when we divide powers with the same base?

1) 
$$\frac{2^{6}}{2^{2}}$$
  $\frac{2 \times 2 \times 2 \times 2 \times 2}{2 \times 2}$ 

Do you notice anything???





#### Exponent Law for a Quotient of Powers





To divide powers with the same base, subtract the exponents.

must be the same base

$$a^m \div a^n = a^{m-n}$$





### What happens when we divide powers with the same base?

$$\frac{79}{74}$$

$$\begin{array}{c} 3) & (-5)^7 \\ \hline (-5)^3 \end{array}$$





7976,77 4 acegh, 5 bd fh, 7, 8, 10 bd fhj Exponent Law 1 Review.pdf