

# DO NOW

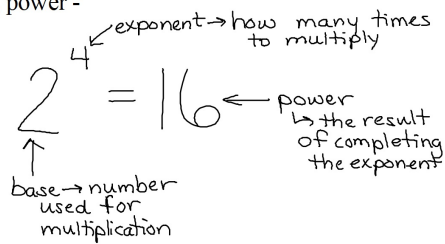
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# Algebraic Properties Quiz

## 1.6 Exponents

coefficient - the number part of a term  
(number found in front of variable(s))

base, exponent, power -



Examples: Find the coefficient, base, exponent and power.

1.  $4x^5$   
 coefficient = 4  
 base =  $x$   
 exponent = 5  
 power =  $x^5$

2.  $-w^8$   
 coefficient = -1  
 base =  $w$   
 exponent = 8  
 power =  $w^8$

3.  $2\pi r$   
 coefficient =  $2\pi$   
 base =  $r$   
 exponent = 1  
 power =  $r$

4.  $(2a+3b)^4$   
 coefficient = 1  
 base =  $2a+3b$   
 exponent = 4  
 power =  $(2a+3b)^4$

Name the numerical coefficient of x:

5.  $22 - 4x$

$-4$

6.  $\frac{x+5}{2}$   
 $\frac{x}{2} + \frac{5}{2}$   
 $\frac{1}{2}x + \frac{5}{2}$

$\frac{1}{2}$

7. List all of the factors:  $6b^2$

$2, 3, 6, b, b^2, 2b, 3b, 6b, 2b^2, 3b^2, 6b^2$

$x^5 \times x^2$   
 $(x \cdot x \cdot x \cdot x \cdot x) \cdot (x \cdot x)$   
 $x^7$

$x^a \times x^b = x^{a+b}$

\* Must have same base  
 - Add exponents to multiply

$(x^4)^5$   
 $x^4 \cdot x^4 \cdot x^4 \cdot x^4 \cdot x^4$   
 $(x \cdot x \cdot x \cdot x) \cdot (x \cdot x \cdot x \cdot x) \cdot (x \cdot x \cdot x \cdot x) \cdot (x \cdot x \cdot x \cdot x) \cdot (x \cdot x \cdot x \cdot x)$   
 $x^{20}$

$(x^a)^b = x^{ab}$

\* Must have a single base  
 - Sharing two exponents  
 - Multiply exponents to raise an exponent to a power

$\frac{x^6}{x^2} = \frac{x \cdot x \cdot x \cdot x \cdot x \cdot x}{x \cdot x}$   
 $x^4$

$\frac{x^a}{x^b} = x^{a-b}$

\* Must have same base  
 - Subtract exponents to divide

# **HOMEWORK**

Worksheet HW 1.6