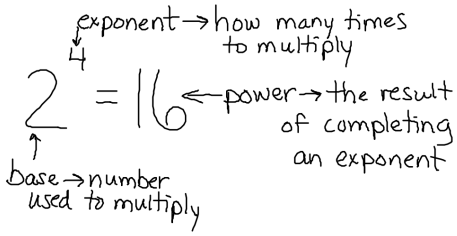
6.2 Exponents

coefficent - number part of a term
(number found in front of variable)

base, exponent, power -



Page 1

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 = 2π
base = r
exponent = 1
power = r

4. $(2a+3b)^4$

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

Page 2

Name the numerical coefficient of x:

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

$\frac{1}{2}$

6. $22-4x$

-4

7. $-5x+2y$

-5

8. $2\pi x$

2π

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

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

Page 3

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

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

* Must have the 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 the exponents

Page 4

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

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

* Must have the same base
- Subtract the exponents to divide

Complete CW 6.2 Basic Exponent Rules

Page 5

HOMEWORK

Worksheet HW 1.6

Page 6