10.1 Exponents

Review – Parts of an Exponent

4^3

_____ ← base

_____ ← exponent

_____ ← power

Example 1

Write each product using exponents

1) $5 \bullet 5 \bullet 5$

2) $m \bullet m \bullet m \bullet m \bullet m \bullet m$

3) $a \bullet b \bullet b \bullet a \bullet b$

4) $-4 \bullet -4 \bullet -4$

5) $\frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2}$

On Your Own

Write each product using exponents

6) $(-7)(-7)(-7)$

7) $\pi \bullet \pi \bullet r \bullet r \bullet r$

8) $\frac{1}{4} \bullet \frac{1}{4} \bullet \frac{1}{4} \bullet \frac{1}{4} \bullet \frac{1}{4}$

9) $0.3 \bullet 0.3 \bullet 0.3 \bullet x \bullet x$

Review – Order of Operations

P
E
M
D
A
S

Practice

Simplify the following

10) $9+6\times4-7$

11) $24\div(3\bullet5-7)$

P E M D A S

Left →Right Left →Right

12) $(4-2)^3-5$

13) $8+2\times9^2$

P E M D A S

Left →Right Left →Right

14) $6+2^3\div8$

15) $100-5^2\times4$

Important!!

$$(-4)^2 \quad vs \quad -4^2$$

Evaluation each expression

16) -2^4

17) $(-2)^4$

On Your Own

Evaluation each expression

18) $3+2\bullet 3^4$

19) $3^3-8^2\div 2$

On Your Own

Evaluation each expression

20) -5^4

21) $\left(-\frac{1}{6}\right)^3$

22) $\left|-3^3\div 9\right|$

Evaluating with negative numbers

Evaluate x^3 if $x=-2$