2-6-1 Introduction to Exponents

Repeated Multiplication

Remember multiplication is a way to write repeated addition. To say 3+3+3+3 we write 3x4.

Sometimes multiplication is done over and over and over. To write 3x3x3x3 we write 3^4.

4^2 (read "four squared") means 4x4 so 4^2 =16 5^3 (read "five cubed") is 5x5x5=125

Practice: Write the indicated operation using exponents. Then perform the operation.

a) 4x4x4= 10X10X10X10X10X10= 2x2x2x2x2x2x2x2=

b) 5x5= 3x3x3x3x3= 9x9x9=

c) 0.3 x 0.3 x 0.3= 5.1 x 5.1= (-1.2)(-1.2)(-1.2)=

d) 0.2 x 0.2 x 0.2 x 0.2= 0.01x0.01x0.01x0.01= 1.5x1.5=

e) -3 x (-3) x (-3) x (-3)= -100x(-100)x(-100)= (-1)x(-1)x(-1)x(-1)x(-1)=

f) aaaaa= (answer: a^5) xxxxxxxxxxx= 2f2f2f2f=

Practice: Perform the indicated operation.

g) 2^5= 7^2= 8^2=

h) 12^2= 15^2= 25^2=

i) $(-4)^2$= $(-10)^2$= $(-13)^2$=

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

k) $(-10)^3$= $(0.5)^4$= $(0.2)^4$=