

BE-1A

WEDNESDAY 8-13-08

Convert to a decimal, then a percent:

① $\frac{5}{8}$

② $\frac{9}{18}$

③ What is a variable? What would be a good variable to use for the following:

① distance

② rate

③ time

④ slope

⑤ oxygen

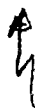
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- Please Remind me to (1) issue books
(2) take pictures w/ lights for Per. 1.

XXXXXXXX means what?

3 · 3 · 3 · 3 · 3 · 3 · 3 · 3 means what?

There is a shorthand way of writing these expressions.

$$XXXXXXXX = X^8$$



X raised to the 8th power

OR X to the 8th power

the 8 is a superscript, it is SMALLER than the X and is above it and to its right.

The X is called the Base.
The 8 is called the Exponent of X or the power of X.

$$3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 = 3^8 = 6561$$



Base^{Exponent}

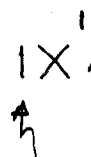
means multiply the base times itself the exponent number of times

$$X = X^1$$

the exponent 1 is there, not usually shown.



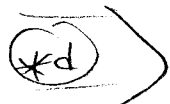
X CASUAL DRESS



FORMAL DRESS

EXONENT

COEFFICIENT



$$\textcircled{\text{Ex}} \quad X \cdot X = X^2$$

$$4^2 = 16$$

$$2^3 = 8$$

$$5^2 = 25$$

Are you ready for the most missed problem in Algebra?

$$3^2 = ?$$

$$3^2 = 3 \cdot 3 = 9 \quad \text{NOT } 6 !!$$

$$\textcircled{\text{Ex}} \quad 3 \cdot X \cdot X = 3X^2$$

$$12 \cdot a \cdot a \cdot b \cdot b \cdot b = 12a^2b^3$$

↑ ↑ ↑ ↑ ↑ ↑

factors

↑
product



factories make products

Going from words TO Algebraic Expressions

Some common meanings:



<u>WORD</u>	<u>MATH OPERATION +, -, •, or ÷</u>
MORE	+
Sum	+
difference	-
less	-
less than	- from WHAT YOU START WITH
product	•
quotient	÷
of	• <u>EX</u> $\frac{1}{3}$ of $x = \frac{1}{3}x$

EX 8 more than N

$$8 + N$$

$\frac{1}{3}$ of a

$$\frac{1}{3}a$$

the sum of 5 and x

$$5 + x$$

the product of a and b

$$ab$$

y to the 4th power

$$y^4$$

7 less x

$$7 - x$$

7 less than x

$$x - 7$$

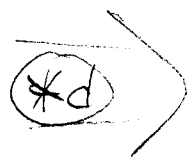
x to the y power

$$x^y$$

the product of 4 and
 x to the third power

$$4x^3$$

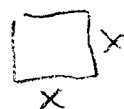
The ARE 2 common NAMES WHEN dealing with exponents.



Squared

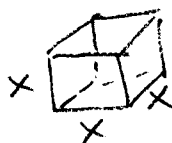
means raised to the second power.

Historical reasons, the Area of a square of side x is $x \cdot x = x^2$ square units



cubed

means raised to the third power. The Volume of a cube of side x is $x \cdot x \cdot x = x^3$ cubic units



Homework: Worksheet 1-1 Page 1 Variables and Expressions
in the "Study Guide and Intervention"
Workbook

Normally, or most often, all your worksheets will end up on the front and you will do all your work on attached loose leaf, but this one you may write on work-sheet.