

BE-1ATUESDAY 8-17-10

Convert to a decimal, then to a per cent:

① $\frac{8}{12}$

② $\frac{4}{15}$

Convert to a decimal:

③ 26%

④ 5.81%

Using mental math, find the products:

⑤ $34 \cdot 10$

⑥ $896 \cdot 100$

⑦ $1.62 \cdot 1000$

• Homework Review: "Complete the table"

<u>Per</u>	<u>Fraction</u>	<u>%</u>
1	$\frac{9}{26} = .346$	35%
2	$\frac{5}{22} = .227$	23%
3	$\frac{23}{25} = .92$	92%
4	$\frac{15}{19} = .789$	79%
5	$\frac{14}{20} = \frac{7}{10} = .7$	70%
7	$\frac{15}{24} = \frac{5}{8} = .625$	63%

←  Simplify First!
← 

➔ *d CONSTANT

A number, the value of
A number never changes it
always has the same value
so it is called a constant

ⓧ 4

ⓧ 0

ⓧ -3.6

ⓧ $\frac{1}{2}$

ⓧ $0.\overline{3}$

ⓧ π

➔ *h VARIABLE

A letter used to represent one
or more possible number values,
since its value may change or vary,
it is called a variable.

ⓧ x

ⓧ E

💡 USE MEANINGFUL VARIABLE NAMES !!!

Area of
rectangle
is length $\cdot$ width
length

$A = l \cdot w$ makes sense

$x = y \cdot z$ makes no sense

{A is not the same as a LOOK



$+$, $-$, $\cdot$, $\div$ these are symbols for the 4 basic math operations, so they are called operators.



Algebraic Expression

A math expression with ONE OR MORE ^(CONSTANTS) NUMBERS AND VARIABLES AND operators

(EX)

$3x$

What is the 3 doing to the x ?

$3 + x$

$4x - 3y$

xy

What is the x doing to the y ?

$5x$

How many x 's ARE there?

x

How many x 's ARE there?

$x = 1x = 1 \cdot x$ The 1 is "understood", it is NOT normally shown

$3abc \div 4d$

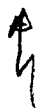
$\frac{2x}{y}$

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



COEFFICIENT

1



EXPONENT

FORMAL DRESS

(Ex) $X \cdot X = X^2$

$$4^2 = 16$$

$$2^3 = 8$$

$$5^2 = 25$$

Are you ready for the most missed problem in Algebra?

$$3^2 = ?$$

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

(Ex) $3 \cdot X \cdot X = 3X^2$

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

↑ ↑ ↑ ↑ ↑

factors

↑
product



factories make products

Homework: Evaluate:

① 3^2 ② 5^3 ③ 2^6 ④ 2^3 ⑤ 3^3

⑥ 1^4 ⑦ 8^1 ⑧ 9^2 ⑨ 4^3 ⑩ 8^4