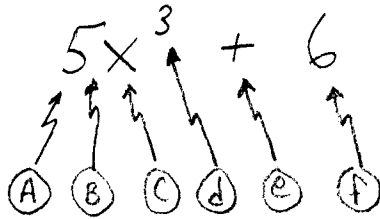


- ① Name EACH item in the following Algebraic Expression: $5x^3 + 6$



- ② Did you organize your NOTES INTO the 4 sections I asked you to: 1. definitions ?
2. formulas
3. EXAMPLES
4. memory aids

- ③ ESTIMATE $\sqrt{35}$

• SHOW WORK! Work must support ANSWER.

Using THE definition of place value to
switch between fractions AND decimals:

Name each place value: 1 2 3 4 . 5 6 7 8

Using place value, what does each of
these number represent?

$$4 \Rightarrow 4 \text{ ones or } 4 \cdot 1 = 4 = \boxed{\frac{4}{1}}$$

$$3 \Rightarrow 3 \text{ tens or } 3 \cdot 10 = 30 = \boxed{\frac{30}{1}}$$

$$2 \Rightarrow 2 \text{ hundreds or } 2 \cdot 100 = 200 = \boxed{\frac{200}{1}}$$

$$1 \Rightarrow 1 \text{ thousand or } 1 \cdot 1000 = 1000 = \boxed{\frac{1000}{1}}$$

$$5 \Rightarrow 5 \text{ tenths or } 5 \cdot \frac{1}{10} = \boxed{\frac{5}{10}} = \frac{1}{2}$$

$$6 \Rightarrow 6 \text{ hundredths or } 6 \cdot \frac{1}{100} = \boxed{\frac{6}{100}} = \frac{3}{50}$$

$$7 \Rightarrow 7 \text{ thousandths or } 7 \cdot \frac{1}{1000} = \boxed{\frac{7}{1000}}$$

$$8 \Rightarrow 8 \text{ ten thousandths or } 8 \cdot \frac{1}{10000} = \boxed{\frac{8}{10000}} = \frac{4}{5000} = \frac{2}{2500} = \frac{1}{1250}$$

Looking just AT tenths for example:

$$\text{IA } 0.5 = \frac{5}{10} \quad 0.4 = ?$$

$$0.4 = \frac{4}{10}$$

$$0.3 = \frac{3}{10}$$

Can you go the other way? What is $\frac{5}{10}$ as a decimal? $\frac{5}{10} = 0.5$

$$\frac{4}{10} = 0.4$$

$$\frac{1}{10} = 0.1$$

$$\text{BTW: } 0.1 + 4 = 4.1$$

$$\text{or } \frac{1}{10} + 4 = 4.1$$

(from going)

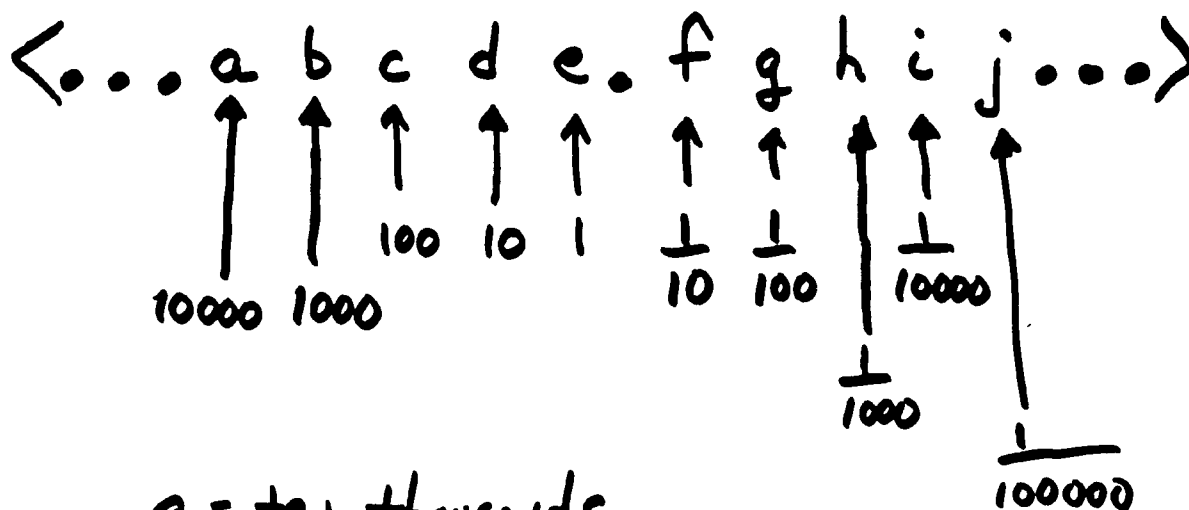
$$\frac{1}{100} = 0.01$$

$$\frac{7}{1000} = 0.007$$

$$\frac{1}{5} = \frac{1}{5} \cdot \frac{2}{2} = \frac{2}{10} = 0.2$$

PLACE VALUE

NAME EACH PLACE VALUE



a = ten thousands

b = thousands

c = hundreds

d = tens

e = ones

f = tenths

g = hundredths

h = thousandths

$$\begin{array}{rcl}
 426.5 & = & 4 \text{ hundreds} = 400 \\
 & & 2 \text{ tens} = 20 \\
 & & 6 \text{ ones} = 6 \\
 & & 5 \text{ tenths} = \frac{5}{10} = \frac{1}{2} \\
 & & \hline
 & & 426\frac{1}{2} \\
 & & \text{or} \\
 & & 426.5
 \end{array}$$

WRITE AS A FRACTION:

$$0.2 = \frac{2}{10} = \frac{1}{5}$$

$$0.31 = \frac{31}{100}$$

$$4.506 = 4\frac{506}{1000} = 4\frac{253}{500}$$

NAME THE PLACE VALUE OF
the underlined number:

5026.458 tens

5026.458 thousandths

5026.458 tenths

5026.458 ten thousands

WRITE AS A decimal:

$$\frac{2}{10}$$

$$\frac{4}{1000}$$

$$\frac{24}{100}$$

$\textcircled{*d}$ SUBSTITUTION
PROPERTY OF
EQUALITY

If $a = b$, then b can
replace a in any algebraic
expression.

$\textcircled{*d}$ Symmetric
PROPERTY OF
EQUALITY

If $a = b$, then $b = a$

NOTE: 2 more POE's coming

Putting the two properties of equality together,
it means that if $a = b$ you can use a
or b in place of each other wherever
you want.

$\textcircled{+EX}$ $x = 2$ $y = 4$

EVALUATE: $xy + 6$

$\textcircled{*m}$

$() () + 6$

PARENTHESES ARE
YOUR FRIENDS WHEN
YOU SUBSTITUTE

$(2)(4) + 6$

PE(MD)(AS)

$8 + 6 = 14$

$\textcircled{*d}$

$\therefore \boxed{xy + 6 = 14}$

$\therefore$ means "therefore"

So if you know ^(Numbers) VALUES for ALL of the variables in an algebraic expression,

- first substitute (WHO ARE YOUR FRIENDS?)
- then $PE(MD)(AS)$

EX4 Pg 12

$$a = 7 \quad b = 3 \quad c = 5$$

EVALUATE: $a^2 - (b^3 - 4c)$

$$(\quad)^2 - [(\quad)^3 - 4(\quad)]$$

THIS LINE just for SHOW

$$(7)^2 - [(3)^3 - 4(5)]$$

$PE(MD)(AS)$

You will only need this line

$$7^2 - [27 - 20]$$

$$7^2 - [7]$$

$$49 - 7 = \boxed{42}$$

*M> Multiplication of Fractions

Tops times Tops
Bottoms times Bottoms

*CROSS cancel
if you can

$$\frac{\overset{1}{\cancel{2}}}{\underset{1}{\cancel{3}}} \cdot \frac{\overset{1}{\cancel{3}}}{\underset{2}{\cancel{4}}} = \frac{1}{2}$$

*EX>

$$\frac{2}{3} \cdot \frac{3}{4} = \frac{2 \cdot 3}{3 \cdot 4} = \frac{6}{12} = \boxed{\frac{1}{2}}$$

PRACTICE:

$$\frac{4}{5} \cdot 8 = \frac{4}{5} \cdot \frac{8}{1} = \boxed{\frac{32}{5}}$$

$$\frac{1}{2} \cdot 60 = \frac{1}{2} \cdot \frac{60}{1} = \frac{60}{2} = \boxed{30}$$

$$\left(\frac{5}{9}\right)^2 = \frac{5}{9} \cdot \frac{5}{9} = \boxed{\frac{25}{81}}$$

$$\left(\frac{1}{2}\right)^2 = \frac{1}{2} \cdot \frac{1}{2} = \boxed{\frac{1}{4}}$$

$$\frac{2}{3} \cdot 5x = \frac{10x}{3} \text{ or } \frac{10}{3}x \quad \text{Since } \frac{2}{3} \cdot \frac{5}{1} = \frac{10}{3}$$

Homework: Pg. 20 # 57 to 67, Practice Quiz #9.