

1. Find the error and fix the problem.

$$100 - 10 \times 8 + 40 \div 5(5 - 3)$$

$$100 - \underline{10 \times 8} + 40 \div 5(2)$$

$$100 - 80 + \underline{40 \div 5(2)}$$

$$100 - 80 + \underline{40 \div 10}$$

$$\underline{100 - 80} + 4$$

$$\underline{20} + 4$$

$$\underline{24}$$

36

Stick Quiz

T1-2 Order of Operations

2. Evaluate.

Show each step.

$$14 \div 7 \cdot 5 - 3^2$$

3. Write your PERMDAS sentence here or show me list of written PERMDAS.



I can... recognize and apply the properties of numbers to simplify algebraic expressions.

WE DO MOST OF THESE ALL THE TIME AND JUST DIDN'T
KNOW IT HAD A NAME!



No matter what operation is performed the
ORIGINAL NUMBER VALUE STAYS THE
SAME!

Name	Definition	Example
Additive Identity (1)	For any number If you add zero It stays the same.	$17 + 0 = 17$ $0 + m = m$ $2x + 0 = 2x$ $3 + m + 0 = 3 + m$
Multiplicative Identity	For any number If you multiply by 1 it stays the same.	$1 \cdot x = x$ $5 \cdot 1 = 5$ $1(m^2 + 2) = m^2 + 2$

What property?

1. $1 + 0 = 1$ Add Id

2. $x \cdot 1 = x$ Mult Id

Finish the right side and name property.

3. $2 + x + 0 = \underline{2 + x}$ Add Id

4. $1(x^2 - 3) = \underline{x^2 - 3}$ Mult Id

OPPOSITE/RECIPROCAL (Flipped Fraction)

Name	Definition	Example
Additive Inverse "opposite"	For any number added to its opposite equals zero.	$-3 + 3 = 0$ $4m + (-4m) = 0$ $x + 5 - 5 = x$
Multiplicative Inverse "reciprocal"	If you multiply a number by its <u>reciprocal</u> you get 1	$\frac{2}{1} \cdot \frac{1}{2} = \frac{2}{2} = 1$ $\frac{3x}{1} \cdot \frac{1}{3} = 1x = x$

What property?

1. $\frac{2}{3} \cdot \frac{3}{2} = 1$ Mult Inv

2. $3x + (-3x) = 0$ Add Inv

Finish the right side and name property.

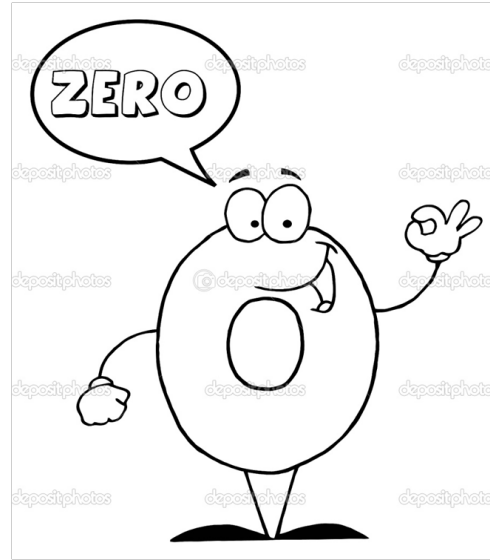
3. $2 + x + 0 = \underline{2+x}$ Add Id.

4. $2 \cdot \frac{1}{2}x = \underline{1x}$ Mult Inv

Zero Product Property

Definition:

multiplication
The product of a number and zero is zero!



Example: $5 \cdot 0 = 0$ $2710 \cdot 0 = 0$ $0x = 0$
 $0(x+1) = 0$

What property?

1. $5z \cdot 0 = 0$

2. $t + 0 = t$

3. $\frac{1}{x} \cdot x = 1$

4. $-grams + grams = 0$



This is the **Commutative Property**!!

Definition:

The order you add or multiply doesn't change answer!

Example

$$4 \cdot 5 \cdot 3 = 4 \cdot 3 \cdot 5$$

$$20 \cdot 3 = 12 \cdot 5$$

$$60 = 60$$

$$5 - 3 =$$

$$5 + (-3) = -3 + 5$$

$$2 = 2$$



ASSOCIATIVE PROPERTY

(PARENTHESIS)

Doesn't work for
Subtraction and
Division!!

Definition:

The way you group 3 or more numbers when adding/multiplying doesn't change the answer.

Example:

$$(2+3)+(5+7) = (2+3+5)+7$$

$$(2m)k = 2(mk)$$

HW Properties Day 1 WS Front only
Circle # 8, 10, 12, 16, 19, 20, 22, 23
Don't do these until next class!