Thursday, August 9, 2012

TISK Problems

1) Multiply $\dfrac{5}{4} \cdot \dfrac{6}{25}$

2) Sam has four fewer candy bars than Andrew. If Andrew has 13 candy bars, write an equation to solve for the number of candy bars Sam has.

3) Divide $30\overline{)5640}$

There will be 3 Mental Math questions today.

Be sure you also have your Post-It note ready with your name on it.

Homework Check

12) You can buy 3 hamburgers.

13) You can buy 3 tickets.

14) You must sell 8 baskets to raise $115.

15) You can buy two fruit baskets.

16) You must sell 8 deluxe baskets to raise $190.

The Algebraic Order of Operations

- The Order of Operations tells us how we should evaluate an expression.

- Without it.. No one could be sure of getting the same answers!

- Take a look:

$$12 \div 4 - 2 + 8 \cdot 3$$

Student #1:

$$3 - 2 + 8 \cdot 3$$
$$1 + 8 \cdot 3$$
$$9 \cdot 3 = 27$$

Student #2:

$$12 \div 4 - 2 + 24$$
$$3 - 2 + 24$$
$$3 - 26 = -23$$

Student #3:

$$3 - 2 + 8 \cdot 3$$
$$3 - 2 + 24$$
$$1 + 24 = 25$$

So, who is right??

Order of Operations

- **P**arentheses
  - Includes: (parentheses), [brackets], {braces}, |absolute value bars|, $\sqrt{\text{square root symbols}}$
- **E**xponents
- **M**ultiply & **D**ivide
  - From left to right
- **A**dd & **S**ubtract
  - From left to right

So, who was right?

$$12 \div 4 - 2 + 8 \cdot 3$$

Student #1:
$$3 - 2 + 8 \cdot 3$$
$$1 + 8 \cdot 3$$
$$9 \cdot 3 = 27$$

Wrong. This student subtracted and added before multiplying.

Student #2:
$$12 \div 4 - 2 + 24$$
$$3 - 2 + 24$$
$$3 - 26 = -23$$

Wrong. This student should have subtracted THEN added.

Student #3:
$$3 - 2 + 8 \cdot 3$$
$$3 - 2 + 24$$
$$1 + 24 = 25$$

Correct!

Practice Together…

- Evaluate the expressions.

Parentheses? $\frac{1}{2}(6+4)-8$

$6+4=10$

Exponents? $\frac{1}{2}(10)-8$

Multiplication or Division? $\frac{1}{2}\cdot 10-8$

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

Addition or Subtraction? $5-8$

-3

Practice Together…

- Evaluate the expressions.

Parentheses? $300 - \left(7^2 - 4\right)3$

Exponents? $300 - \left(45\right)3$

Multiplication or Division? $300 - 45 \cdot 3$

Addition or Subtraction? $300 - 135$

165

$7^2 - 4$

$49 - 4$

Exponents?

Multiplication or Division?

45

Addition or Subtraction?

Another couple together.
(This is how you should show all your work.)

$$4 \cdot 16 - 2(7-4)^3$$

$$-42 \div 6 + 3(4^2 - 20)$$

Homework

- No Required Homework Tonight