DAY 3 INCLASS

PLEASE EXCUSE MY DEAR AUNT SALLY is a lie!!!!
Order of Operations

Groupings PARANTHESES---Not exactly--Actually it is grouping symbols first
EXPONENTS
MULTIPLY/DIVIDE--Not exactly--does the order I multiply/divide matter? How
are multiply and divide related?
ADD/SUBTRACT--Not exactly--does the order I add/subtract matter? How are
                                                    addition and subtraction

$$\left(\underset{1^{st}}{(5+4)} \div 2\right)$$

Grouping Symbols (these function just like paranthesis)
    Examples of Grouping Symbols:
        -Absolute Value $|(-4+1)|$
        -Roots (radical) $\sqrt{(3+6)}$
        -Brackets $[\ (\ )+(\ )\ ]$
        -Fractions (Numerator/Denominator) Evaluate each expression.

$$\frac{5-3}{2(5-1)} = \frac{2}{8} = \frac{1}{4}$$

$$(-2)^2 \neq -2^2$$
$$+4 \neq -4$$

Evaluate each expression.

1) $5 \cdot 10 \div 2$
$50 \div 2$
$\boxed{25}$

2) $4^2 - 1$
$16 - 1$
$\boxed{15}$

3) $3 \cdot 4 - \left(\frac{4}{4}\right)$
$3 \cdot 4 - 1$
$12 - 1 = \boxed{11}$

4) $1 + (3-4)^3$
$1 + (-1)^3$
$1 - 1 = \boxed{0}$

5) $-\dfrac{10}{5 \cdot (-6) + (-5)^2} = -\dfrac{10}{5\cdot(-6)+25}$
$= -\dfrac{10}{-30+25} = -\dfrac{10}{-5} = \boxed{+2}$

6) $\dfrac{(5\cdot 4)}{|-4|} = \dfrac{20}{4} = \boxed{5}$

7) $\left(-\dfrac{6}{6}\right)\left(\dfrac{-6+\sqrt{4}}{3+1}\right) = -1 \cdot \dfrac{-6+2}{4}$
$= -1 \cdot \dfrac{-4}{4} = -1 \cdot -1 = \boxed{1}$

8) $(-5) - ((-1)+3) + 2 - 3 - 5$
$-5 - 2 + 2 - 3 - 5$
$-7 + 2 - 3 - 5$
$-5 - 3 - 5$
$-8 - 5 = \boxed{-13}$

Simplify each expression by distributing.

9) $10(7x - 5)$
$\boxed{70x - 50}$

10) $-8(8 + 9m)$
$-64 - 72m$
$\boxed{-72m - 64}$

11) $x(x+1)$
$\boxed{x^2 + x}$

12) $-7(n - 6)$
$\boxed{-7n + 42}$

Find the greatest common factor.

13) $\dfrac{70x}{10} - \dfrac{50}{10}$ GCF: 10

14) $-64 - 72m$ GCF: 8

15) $x^2 + x$ GCF: X

16) $\dfrac{-7n}{} + \dfrac{42}{}$ GCF: 7 $2 \cdot 2 \cdot 2 = 8$

17) What would be the undistributed version of $\dfrac{2x}{2} - \dfrac{4}{2}$?

$2(x-2) = 2x - 4$

18) What would be the undistributed version of $\dfrac{6x}{6} + \dfrac{36}{6}$?

$6(x+6)$

19) What process did you use to undistribute the problems above?   pull out the GCF.
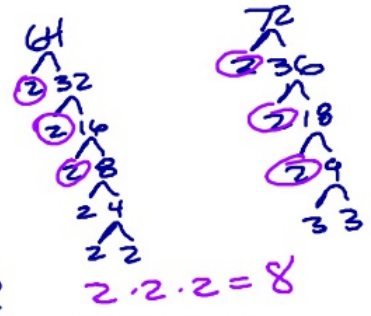
Undistribute the following expressions.

20) $\dfrac{22x}{11} - \dfrac{11}{11}$ $\dfrac{2 \pm \#}{\#}$

$\boxed{11(2x-1)}$

21) $\dfrac{2x^2}{x} - \dfrac{3x}{x}$ $\boxed{x(2x-3)}$

22) $\dfrac{40x}{8} + \dfrac{8}{8}$

$\boxed{8(5x+1)}$

23) $\dfrac{30x^2}{5x} - \dfrac{5x}{5x}$

$\boxed{5x(6x-1)}$

24) $\dfrac{14}{2} - \dfrac{2x}{2}$

$\boxed{2(7-x)}$

25) $\dfrac{-7x}{-7} - \dfrac{28}{-7}$

$\boxed{-7(x+4)}$

What is a factor?   integer or variable

What is a greatest common factor?   Largest integer or variable (power)

What is a multiple?   prime numbers multiplied together

What does it mean to factor?   Pull out

What does it mean for a number to be prime?   divisable by one and itself.

In questions 20-25 box the factors and circle the multiples.

Use a factor tree to find the prime factorization of each number/expression.

26) 4
2 2   prime: 2

27) 5
Prime: 5

28) 125
5 25   Prime: 5
   5 5

29) 24
2 12   prime! 2 & 3
   2 6
      2 3

30) 210
2 105   prime: 2, 3, 5, 7
   5 31

31) 500
2 250   prime: 2 & 5
   2 125
      5 25
         5 5