

## Teaching Notes For Homework #3

### Multiplication

Words that mean multiplication:

- Multiply, times, product, of

Ways to write multiplication:

- $5 \cdot 6$  and  $5(6)$  **NEVER** use an "x" this is not acceptable  $5 \times 6$ !!!

It is so important that students know the times tables. Do a little mini verbal or write quiz to gage where they are at. Stress the importance that students know their times tables. Maybe even make flash cards as a class project. These problems are nearly impossible if students don't know the times tables.

How to multiply

1. Put the longest number on top. You don't need to use commas and maybe even shouldn't as a part of your work because they sometimes end up looking like a one. Be sure the work is neat and lined up carefully.
2. Start on the bottom right and multiply up and put the answer underneath of the number you multiplied by.
3. Carry as needed showing all work.
4. Continue multiplying until there are no more numbers on the bottom.
5. Add for final answer.

Practice multiplication problems:

- $987(678)$
- $8,759(986)$
- $6,987(798)$
- $659,738(60,007)$
- $8,900,000(740,000)$  \* zeros are our friend and they make multiplication really easy. All you have to do is ignore the zeros and just multiply the numbers, in this case 89 and 74. Then just add all the zeros from both numbers onto the end of the answer.

How to multiply signed numbers:

Same signs result in a positive answer.  $(+)(+) = +$      $(-)(-) = +$

Different signs result in a negative answer  $(+)(-) = -$      $(-)(+) = -$

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## Teaching Notes For Homework #3

### Exponents (aka powers)

Exponents tell you how many of same thing are there. For example,  $5^2$  just means that there are two 5's sitting there being multiplied together.  $5^2 \Leftrightarrow 5 \cdot 5$

Say "five squared" or "five to the second power."  $5 \cdot 5 = 25$        $5^2 = 25$

Students must show **all** their work. When doing an exponent problem they need to write out the numbers all being multiplied together and then get an answer.

Practice exponent problems:

- $3^2$ 
  - the work students need to show:  $3 \cdot 3$
- $2^3$ 
  - the work students need to show:  $2 \cdot 2 \cdot 2$
- $1^8$ 
  - the work students need to show:  $1 \cdot 1 \cdot 1 \cdot 1 \cdot 1 \cdot 1 \cdot 1 \cdot 1$
- $0^4$ 
  - the work students need to show:  $0 \cdot 0 \cdot 0 \cdot 0$
- $5^0$ 
  - **ANYTHING TO THE ZERO POWER IS ONE!**

Practice multiplying signed number problems:

- $5(6)$
- $-7(8)$
- $8(-9)$
- $-6(-7)$

Practice Monster problems:

- $\sqrt[3]{81x^2y^5a^4}$
- $\sqrt{72x^4y^3a^9}$

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