I would like to remind you that the homework should be done on a separate piece of paper.
*There is not enough space on this handout to show all work. **You must show all steps!***

1. Simplify. Write your answer as a number with a positive power:

a) $\frac{4}{9}ab^3 \cdot \frac{3}{2}ab =$

b) $-0.6a^2b \cdot (-10ab^2) =$

c) $ab \cdot (-7ab^3) \cdot 4a^2b =$

d) $(-c^3)^3 \cdot 0.15c^4 =$

e) $10x^2y \cdot (-xy^2) \cdot 0.6x^3 =$

f) $(-2x^3)^2 \cdot \left(\frac{1}{4}x^4\right)^3 =$

2. Simplify by distributing:

a) $2aa^2(5 - 3a^2 + a^3 - a) =$

b) $-0.7a^2(2.1a - 7b - 2.3a^2 + 8b) =$

e) $\frac{2}{7}x(1.4x^2 - 3.5y) =$

f) $(6.3x^3y - 3y^2 - 0.7x) \cdot 10x^2y^2 =$

g) $\frac{1}{2}ab\left(\frac{2}{3}a^2 - \frac{3}{4}ab + \frac{4}{5}b^2\right) =$

h) $-\frac{2}{5}a^2y^5\left(5ay^2 - \frac{1}{2}a^2y - \frac{5}{6}a^3\right) =$

Solve the following word problems <u>by writing an equation</u>. Make sure to show all steps!

3. Would you be able to place 158 books on three shelves so that on the first shelf there are 8 books less than on the second shelf and 5 books more than on the third shelf?

4. The upper Angel Falls, the highest waterfall on Earth, are 750 m higher than Niagara Falls. If each of the falls were 7 m lower, the upper Angel Falls would be 16 times as high as Niagara Falls. How high is each waterfall?

5. I have eight more quarters than dimes. If the coins worth $6.20, how many dimes are there?

6. ** The cross-country teams of East Middle School and West Middle School run against each other twice each fall. At the first meet, East's score was two thirds of West's score. At the second meet, East's score increased by 7 points and West's score decreased by 7 points. In the second meet West's score was three less than East's score. How many points did each teach score in each meet?