Oct 6 Worksheet

1. Find appropriate values for the letters so that the following arithmetical equations make sense. Note that these sort of problems may have several solutions.

$$\begin{array}{cccc} & & E & D \\ + & & D & I \\ \hline & D & I & D \end{array}$$

91 10 101 D=1 so I must be 0. Thus E must be 9

$$\begin{array}{cccc} & D & I & \\ + & I & S & \\ \hline I & L & L & \end{array}$$

81 19 100 I must be 1. So D must be 8 and S must be 9 since D+I must give a value at least 10.

$$\begin{array}{cccc} & D & A & N \\ + & N & A & N \\ \hline N & O & R & A \end{array}$$

921 121 1042 N must be 1. So A must be 2. So R must be 4. So D must be 9.

$$\begin{array}{cccc} & & N & O \\ & M & A & N \\ + & & N & O \\ \hline H & A & N & D \end{array}$$

87 908 87 1082 H must be a 1.

$$\begin{array}{ccccc} & T & E & S & S \\ + & S & E & E & S \\ \hline E & L & L & E & N \end{array}$$

4199 9119 13318 E must be a 1. If we try S=8, we find 8+1+1=/=1. So S=9. Thus N=8. Thus L=1+1+1=3, by carrying over a 1. Thus T=4.

$$\begin{array}{ccccc} & W & O & W & \\ & W & O & W & \\ & W & O & W & \\ & W & O & W & \\ + & W & O & W & \\ \hline M & E & O & W & \end{array}$$

575 2875 525 2625

We must have 5W=_W. Try W=5. Then we carry a 2 over the O's. So 5O+2=_O. We see O=2 works. Carry a 1 to the next W's. Then we get E=6 and M=2. Note N=7 also works.

2. Solve the following age problems.

   (a) In 1855 Sitting Bull's age equaled the product of the four digits in the year he was born. If he was born in the 19th century, what is his birth year? 24

   (b) In 1873 Berthe Morisot's age equaled the product of the four digits in the year she was born. If she was born in the 19th century, what is her birth year? 32

   (c) In 2053, Beyonce's age will equal the product of the four digits in the year she was born. What is her birth year? 72

   (d) In 2034, Julian Assange's age will equal the product of the four digits in the year he was born. What is his birth year? 63