HW#1 is Due September 30; submit to Google classroom 15 minutes before the class time.

Review from Math 5

1. A boy had a bag of apples. He gave 1/2 of them to his parents, 1/5 to his brother, 1/4 to his sister and he ate the last apple himself. How many apples did he originally have?

2. Simplify the following expressions

   a) $x + 4(1 - x)$ b) $2 + 5x - 4(3 - x)$

   c) $5(x - 1) - 3(2x + 1)$ d) $(2x + 5y)(3x + y + 2)$

   Hint: Use the distributive property of multiplication: $a(b + c) = ab + ac$

   Example: $(x + y)(z + d) = x(z + d) + y(z + d)$

3. Two secretaries, Barbara and Mary, need to type a 100-page document. Barbara can type it in 4 hours; Mary types slower, so it would take her 5 hours to do this. How fast can they type it together if they divide the work between the two of them in the most efficient way?

4. Simplify the following expression:

$$\frac{(x^2 y^2) \cdot x^3}{x^2 y^5}$$

5. Let $a = 2 \cdot 10^8$, $b = 10^5$. Compute $a^2 \cdot b$, $\frac{a}{b}$, $a^2 \div b^3$

6. If $a = 2^{-13} 3^9$, $b = 2^{11} 3^{-7}$ what is the value of ab? of a/b?

7. If, in a right triangle, one leg has length 1 and the hypotenuse has length 2, what is the length of other leg?

8. Simplify: $\left(\sqrt{17}\right)^2, \left(\sqrt{13}\right)^4, \left(\sqrt{11}\right)^3, \sqrt{2^4 3^6}, \sqrt{2^4 3^5}$