North Hunterdon High School
Algebra 1A Summer Assignment

o Complete **before** the first day of school.

o Please bring it in on our first day of school. It is **NOT** due on Freshmen Orientation Day!

o You do not have to complete this entire assignment in one sitting. Break it down into 2-3 questions in each sitting if you need to!

o Most importantly, **do not use a calculator** on this assignment! I am interested in seeing what YOU know how to do, not what your calculator can do!

Finally, have a fantastic summer!

1. **Use the digits 1 to 9, at most <u>one time each</u>, to make 5 prime numbers.**

   ☐ , ☐☐ , ☐☐ , ☐☐ , ☐☐

2. **Find the factors of the following integers:**
   a. 27   b. 121   c. 80

3. **Complete the story <u>problem</u> and <u>answer</u> statement.**

   a. Problem: *Lucy has _____ apples. She has nine _____ (more/less)*

   than Marcus. How many apples does _____ (Lucy/Marcus) have?

   b. Answer: _____ *(Lucy/Marcus) has _____ apples.*

4. **Use the digits 1 to 9, at most <u>one time each</u>, to make three equivalent fractions.**

   $$\frac{\Box}{\Box} = \frac{\Box}{\Box} = \frac{\Box}{\Box\Box}$$

5. **Match each algebraic expression with its verbal description. Place the corresponding letter on the line next to each expression.**

$n^2 - 6$

A. Multiply n by 2, then add 6.

$(n + 6)^2$

B. Square n, then subtract 6.

$2n + 6$

C. Divide n by 6, then multiply by 2.

$2\left(\dfrac{n}{6}\right)$

D. Add 6 to n, then square it.

6. **Place the digits 1, 2, 3, 4, and 5 in the circles below so that the <u>sums</u> horizontally and vertically are equivalent (the same).**
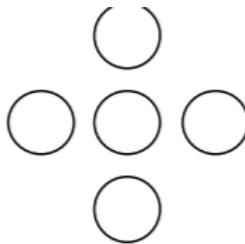
7. **Complete each multiplication or division problem by filling in the boxes with a number that makes the statement true.**

a. $\dfrac{21}{\boxed{}} = 7$

b. $5\left(\boxed{}\right) = 65$

c. $\dfrac{1}{2}\left(\boxed{}\right) = 14$

d. $48 = \dfrac{\boxed{}}{6}$

8. **Study the sample diagram. Notice that:**

$$2 + 8 = 10 \qquad 5 + 3 = 8 \qquad 2 + 5 = 7 \qquad 8 + 3 = 11$$

$\boxed{2}$ 10 $\boxed{8}$

7 11

$\boxed{5}$ 8 $\boxed{3}$
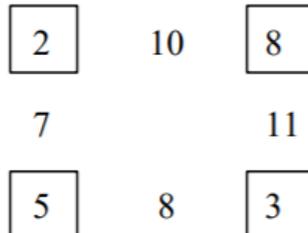
Complete the following diagram so that the same pattern holds:

$\boxed{}$ 15 $\boxed{}$

11 20

$\boxed{}$ 16 $\boxed{}$
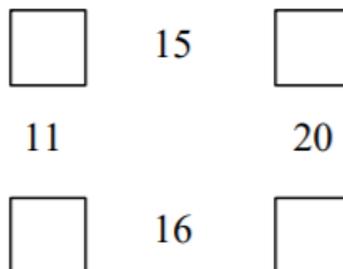
9. **Give an example in which you multiply two numbers and get a product that is <u>less than</u> the original two numbers.**

10. **Think of one way YOU have used math outside of school (other than homework assignments or studying)!**

For example, I used my knowledge of percents to determine how much of a tip to leave my waitress at the Clinton Station Diner!

**Think of something unrelated to my example! Get creative! You use math more than you think!

11. Solve each equation WITHOUT A CALCULATOR.

a. $-10 = \dfrac{x}{20}$

b. $17n = -136$

c. $\dfrac{1}{6} = \dfrac{p}{4}$

d. $t + 7.8 = 24.4$

e. $-12 = 5y - 8y$

f. $4b + 7b = 3 - 3 - 5b - b$

g. $\dfrac{73}{42} = x - \dfrac{2}{3} + \dfrac{5}{6}$

h. $0.9x - 1.1x = -0.82$