Liberty High School
Honors Math Summer Assignment

THIS WILL NOT BE COLLECTED!
YOU WILL TAKE A TEST ON THIS THE FIRST TWO WEEKS OF THE SEMESTER!

Your summer assignment is based upon the assumption that you have truly mastered the skills from your prior mathematics courses. Your teacher next year will be building upon these skills in your upcoming math course and will not reteach these skills from the beginning. If you are unsure how to proceed with a given topic, ask an older sibling or parent, seek help from friends, go online for help, or find tutoring in any fashion you can.

This assignment should be completed by the first day of your honors math class, whether that be in August or January. This packet will not be collected or graded; however, **you will be tested on the material within the first two weeks of the semester**. The intent of this packet is to solely insure that you have truly mastered all of the prerequisite skills that your next course will require you to have. There is not any new material in this packet. All of the topics are ones that have been taught in previous courses.

Once again, your teacher will start the semester with a test the first two weeks on all of the topics found in this packet. In theory, this should be a very good grade for you to start the year since you have seen all of the material before and you have the entire summer to prepare.

Good luck and enjoy your summer.

Sincerely,

Liberty High School Math Department

Useful websites:

http://youtube.com
http://teachertube.com
http://mathforum.org/dr/math
http://www.khanacademy.org/#browse

Drop / Add Policy:

The following guidelines exist for all other schedule changes requested after August 1st:

1) A schedule change request form must be completed by the student and parent. Forms are available in the Counseling Office or the teacher.
2) Schedule changes will be considered for valid educational reasons only. Schedule changes will not be made to accommodate requests for lateral moves within the same subject area or teacher preference.
3) The counselor and assigned teacher will review schedule change requests.
4) Quarter courses (half semester courses) will not be dropped after the first 5 days of class.
5) Full semester courses will not be dropped after the first 15 days of class.
6) All students must maintain a full schedule for the entire year.
7) Level changes will not be considered unless the student has a 75% or lower in the course.

Withdrawals from a course will not become part of the student record if the course is dropped within the first 15 days of a semester class and within the first 5 days of a quarter course (half semester course). A "W" (Withdrew) will be recorded after those days but prior to the end of the first quarter. Either a "WP" (Withdraw Passing) or "WF" (Withdraw Failing) will be recorded if the course is dropped after the first marking period, indicating the student's progress at the time of withdrawal.

A course change must be based upon academic considerations, and be facilitated by a conference/plan developed by the student, parent, teacher and counselor/grade level administrator to support student success. This plan will require tutoring, completion of all required work to date, and a sincere demonstration of effort and ability by the student prior to dropping a course or level of course for all classes in English, Social Studies, Math, Science and Foreign Language.

Honors Algebra 1 Summer Assignment

You must be able to perform the types of problems on this page **without** a calculator.

1) $4 - 9 =$ 2) $-14 + 6 =$ 3) $-7 - (-11) =$ 4) $-5 - 8 =$

5) $\sqrt{49} =$ 6) $\sqrt{144} =$ 7) $-8 \cdot 7 =$ 8) $(-6)(-9) =$

9) $-48 \div 8 =$ 10) $\frac{-45}{-9} =$ 11) $2^3 =$ 12) $5^2 =$

Reduce the following fractions. Do NOT convert improper fractions to mixed numbers. See the next page, "Factors and GCF," for help. (In order to reduce a fraction, you need to divide both the numerator and denominator by their GCF.)

13) $\frac{10}{15} =$ 14) $\frac{36}{24} =$ 15) $\frac{28}{48} =$ 16) $\frac{54}{36} =$

Add/subtract the following fractions. Remember, you need a least common denominator (LCD) to add or subtract fractions. See the page titled "Multiples and LCM" for help. An LCD and an LCM are the same.

17) $\frac{3}{8} + \frac{7}{10} =$ 18) $\frac{4}{9} - \frac{5}{12} =$

Multiply the following fractions. You do NOT need an LCD. You may reduce first as long as one of the numbers is in a numerator and the other is in a denominator. Then multiply the numerators and then the denominators. After multiplying check to see if you can still reduce.

19) $\frac{12}{7} \times \frac{35}{8} =$ 20) $\frac{3}{11} \cdot \frac{22}{15} =$

Divide the following fractions. Recall that you must rewrite the problem by keeping the first fraction, change the division sign to multiplication, and flip the second fraction. Then the problem is just the same as numbers 19 & 20.

21) $\frac{4}{13} \div \frac{20}{26} =$ 22) $\frac{14}{3} \div \frac{21}{18} =$

Factors and GCF

A factor of a particular number is a number by which the particular number is divisible (no remainder). For example, 3 is a factor of 24 since 24 is divisible by 3.
So, the factors of 24 are: {1, 2, 3, 4, 6, 8, 12, 24}
List the factors, in sequence, of the following numbers.

12: _____

36: _____

45: _____

48: _____

52: _____

60: _____

80: _____

85: _____

100: _____

A greatest common factor (GCF) is the largest factor that a group of numbers have in common.
For example, find the GCF of 24 and 60.

24: {1, 2, 3, 4, 6, 8, 12, 24}
60: {1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60}
so, the GCF of 24 and 60 is 12

Find the GCF of the following;

1) 9 and 12 **2)** 10 and 25 **3)** 28 and 56 **4)** 42 and 70

5) 18, 27, & 36 **6)** 12, 30, & 72 **7)** 36, 72, & 126

Multiples and LCM

Multiples of a number are derived by simply taking the number times 1, then the number times 2, then the number times 3, …
For example, the first ten multiples of 8 are:

1 x 8 = 8 2 x 8 = 16 3 x 8 = 24 4 x 8 = 32 5 x 8 = 40 6 x 8 = 48 7 x 8 = 56 8 x 8 = 64 9 x 8 = 72 10 x 8 = 80

So, in a set, the first ten multiples of 8 are:

{8, 16, 24, 32, 40, 48, 56, 64, 72, 80}

List the first ten multiples of the following numbers:

4: _____

7: _____

9: _____

12: _____

15: _____

A least common multiple (LCM) is the smallest multiple a group of numbers has in common.

For example, find the LCM of 9 and 12.

9: {9, 18, 27, 36, 45, 54, 63, 72, 81, 90, … }
12: {12, 24, 36, 48, 60, 72, 84, 96, 108, 120, … }

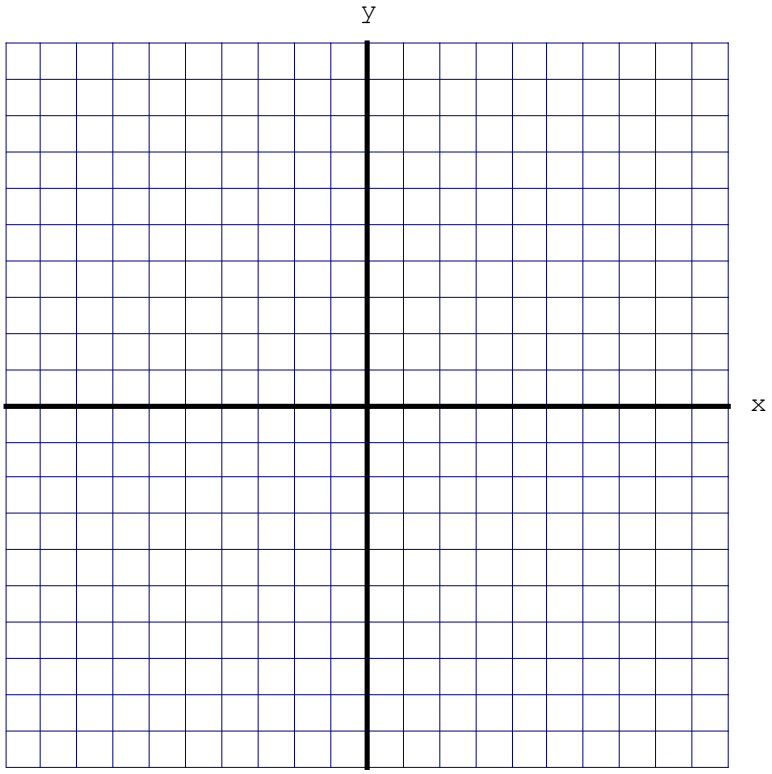
So, the LCM of 9 and 12 is 36.

Find the LCM of the following sets of numbers.

1) 6 and 8 **2)** 10 and 12 **3)** 12 and 15 **4)** 9 and 15

5) 14, 4, & 7 **6)** 16, 6, & 24 **7)** 15, 45, & 30

The Coordinate Plane



Plot the following points and label with the capital letter.

A (-2, 8) B (4, 0) C (-5, -9) D (7, -3)

E (0, -6) F (10, 1) E (0, 0) this point is called the _____

Place the appropriate Quadrant Number in the corner of each quadrant.