5th Grade Assignment – Week #11

Group Assignment:

For Tuesday:

Puzzle: *Bricks.*

There is a stack of identical rectangular bricks, where each brick has a length of 11¾ inches, and is exactly twice as long as it is wide.

1. How wide is each brick?
2. If you place 28 bricks end-to-end, how long would the line of bricks be? (Give the answer in feet and inches, such as 12 ft, 7 in.)
3. How many bricks would it take to make a completely filled-in square patio that measures 23½ feet on each side?
4. First, guess what the total weight would be of all the bricks needed to make the patio from #3. Now that you have guessed, calculate the total weight of the bricks, given that each brick weighs 15 pounds. Give both an exact answer in pounds, and also round your answer to the nearest ton.

For Thursday:

1. *Random Numbers.*
   Each person in the group should make up five random whole numbers that are between one thousand and one million (without having any idea of why we are doing this!).
   Take each person's first number, and with each number, determine whether it is divisible by 9. Then move to each person's second number, etc.

2. *Number Guessing Game.*
   One person comes up with a secret number (which must be a 2-digit number), then the other people in the group take turns asking the first person questions about their secret number, . You may only ask questions like the following:
   - Is your number in the 5's table? (Or you can ask about another table, as well.)
   - How many even digits does your number have? (Or how many odd digits?)
   - Does your number have any repeating digits?
   - Are the digits ascending? (Or, are the digits descending?)
   - What is the sum of your number's digits?

   This is a game that you can play in future, if your group enjoys it.

   Once your group gets good at it, you can add some variation, by allowing for 3-digit (or 4-digit??) secret numbers, and you can also add other allowable questions, as long as it is agreed upon before the game starts.

Individual Work

1. *Measurement Conversions.* Use your measurement tables and/or your notes, as needed.
   a) 5 ft = ___ in
   b) 120 in = ___ ft
   c) 1000 mi = ___ ft
   d) 7 pt = ____ cups
   e) 20 qt = ____ gal
   f) 10 gal = ___ pt
   g) 156 tsp = _____ cups
   h) 9 lb = ___ oz
   i) 160 oz = ___ lb
   j) A bulldozer (shown below) weighs 108,000 lb. How many tons is this?

   k) *Only if you would like an extra challenge!*
   An empty, average-sized passenger plane (737) weighs about 87½ tons. How many ounces is this?

2. *Arranging Animal Weights.* Arrange the following animals in order of weight, from heaviest to lightest, and try to guess each weight, as well.
   a) Full-grown horse
   b) Male lion
   c) African elephant
   d) Gorilla
   e) Dolphin
   f) Moose

3. *Heavy Objects.* Guess the weight of a typical one of each of the following.
   a) Small car
   b) fairly large SUV

4. *Reading a Ruler*. Give the reading (in order from A to J) of each mark on the ruler.