7ᵗʰ Grade Assignment – Week #5

Important Notes for Parent/Teacher:
- Starting next week, I will be integrating some geometry topics into my JYMA lectures. If you choose to do this geometry as a main lesson, your student(s) will have additional geometry pages to do in their main lesson book.

- For our upcoming geometry work, you will need:
    - Compass (for drawing circles)
    - colored pencils
    - straightedge (or a ruler)
    - protractor for measuring angles (7th grade only, starting on Nov 11)
    - Clean paper without lines - main lesson pages are fine.
    - lots of patience!

- *Videos for Parents/Teachers!* In preparation for your role as parent/tutor, it may be helpful for you to see two videos (see below link) from my 6th grade and 7th grade online workshops. Please keep in mind that these videos are part of a larger workshop, and therefore some of what I am talking about does not necessarily pertain to geometry or our JYMA work. But I hope it is helpful.

    These videos are intended only for teachers/parennts; please don't show them to your students, as it would spoil the fun we will have together!

    Here is the link for the 6th grade videos.　　　　Here is the link for the 7th Grade videos.
    This is the password: JYMA6　　　　　　　　　This is the password: JYMA7

Individual Work:
- The **Arithmetic Review Test** is found below. Things to keep in mind regarding the test:
    - The parent should give the test to the student – to be taken by the end of this week.
    - The student should not use notes or the workbook during the test.
    - The student should not see the test until he/she is ready to take it.
    - The student may take as much time as needed.
    - After the student has completed the test, the parent should send a photo of the test to the tutor. The tutor should then indicate which problems are not correct, and then the student should correct those mistakes and send it back to the tutor.

- See how much you can do on Measurement Sheet #1.

- **Working with flashcards is very important!!** Please don't neglect this!
  See Week #4 for instructions.

Group Assignment: For either Tuesday or Thursday

- Note for parents: Be sure that the students do not look at the following question until their group meeting begins. I don't want anyone to arrive at the group meeting with a solution or ideas of how to solve it. I want the students to contemplate this together in their groups.

- **A Fraction Puzzle**
    - Part I. Find three numbers that multiply together to equal $^1/_2$. All three numbers must be greater than (not equal to) $^1/_2$ and less than 1.
    - Part II. Same as Part I, but one of the numbers must be $^{61}/_{73}$.

- **A Special Number**
  An eleven-digit number is such that the first digit is 4, the last digit is 7, and the sum of any three consecutive digits is 14. Find the number.

Arithmetic Test   Name:_____   Date:_____

1) $\frac{5}{11} + \frac{2}{11}$

2) $\frac{5}{11} \cdot \frac{2}{11}$

3) $\frac{41}{36} \cdot \frac{45}{41}$

4) $5\frac{3}{5} + 1\frac{6}{7}$

5) $(2\frac{2}{3})^2$

6) $5\frac{1}{2} \div 1\frac{2}{3}$

7) $84.3 + 9.84$

8) $84.3 - 9.84$

9) $84.3 \cdot 9.84$

10) $(0.02)^3$

11) $\sqrt{64000000}$

12) Convert fractions to decimals and decimals to reduced fractions.

a) $\frac{53}{1000}$

b) $\frac{8}{25}$

c) 0.087

d) 0.425

You should only work on this side after finishing the front side!!

13) Use short division. Leave your answer as a mixed number:
56083÷6

14) Use long division and leave your answer as an exact decimal (perhaps repeating).
0.000823÷0.055

15) Give the prime factorization of 35,100.

16) *Challenge!* Do only if you have extra time

$$\frac{\dfrac{6¼}{¾}}{\dfrac{1}{9} + \dfrac{5 - 3⅔}{3}}$$

Measurement − Sheet #1

Facts you should know

US System

Length
  1 ft = 12 in
  1 yd = 3 ft = 36 in
  1 mi = 5280 ft

Weight
  1 lb = 16 oz
  1 ton = 2000 lb

Volume
  1 tbsp = 3 tsp
  1 fl.oz. = 2 tbsp
  1 c = 8 fl.oz.
  1 pt = 2 c = 16 fl.oz.
  1 qt = 2 pt = 32 fl.oz.
  1 gal = 4 qt

Metric System

Length
  1 m ≈ 39 in

Weight
  1 kg ≈ 2.2 lb
  (1 g ≈ 0.035 oz.)
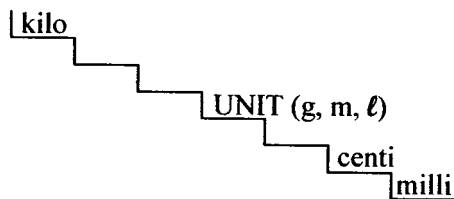 1 metric ton = 1000 kg

Volume
  1 ℓ ≈ 1.06 qt

The Metric Prefixes

Centi means $\frac{1}{100}$ of

Milli means $\frac{1}{1000}$ of

Kilo means 1000 of

The Metric Stairs

kilo

UNIT (g, m, ℓ)

centi

milli

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1) State what each abbreviation stands for and give an example of how big each one is.

a) m

b) km

c) cm

d) mm

e) ℓ

f) mℓ

g) g

h) kg

i) mg

2) **Complete.**

a) 2 pt = _____ fl.oz

b) 6 c = _____ qt

c) 8000 lb = _____ ton

d) 240 yd = _____ ft

e) 18 in = _____ ft

f) 20 lb = _____ oz

g) 48 fl.oz. = _____ pt

h) 2.5 hr = _____ min

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3) For each of the following, write a sign (>,<,=) between the two measurements that indicates which is bigger, or if they are equal.

a) 2 km   2 mi

b) 5 ℓ 5000 mℓ

c) 7 kg   700 g

d) 1 g   1 oz

e) 1 m   3 ft

f) 16 oz   1 lb

g) 300 yd   3 km

h) 3 cm   30 mm

i) 3050 mℓ 3 ℓ

j) 1 kg   2 lb

k) 1 in   1 cm

4) Circle the measurement that makes the most sense.

a) Weight of a typical person
   200 kg   75 kg

b) Length of a car
   75 cm   4.5 m

c) Diameter of an orange
   75 mm   0.5 m

d) Volume of a glass
   500 mℓ 2.7 ℓ

e) Length of a table
   50 mm   1.5 m

Mental Math

5) $71 \cdot 69 =$

6) $14 \cdot 16 =$

7) $59 \cdot 61 =$

8) $104 \cdot 108 =$

9) $2034 - 1988 =$

10) $2400 \div 800 =$

11) $84 \cdot 11 =$

12) $0.43 \cdot 10 =$

Review Section

13) Divisibility. State whether the number is evenly divisible by anything from 2 to 12 (but not 7).

    3,405,888

14) Convert to a fraction.

  a) $0.\overline{6}$

  b) 0.8

  c) 0.009

  d) 0.3125

15) Division. Leave your answer as an exact decimal (perhaps repeating).

  a) $0.0031 \div 0.55$

  b) $724.8 \div 0.054$

16) $\sqrt{160000}$

17) $\sqrt[4]{160000}$

18) $(0.034)^2$

19) $230 - 0.23$

20) $\frac{10}{13} \cdot \frac{3}{13}$

21) $\frac{10}{13} \div \frac{3}{13}$

22) $\frac{10}{13} + \frac{3}{13}$

23) $\frac{10}{13} \cdot 1\frac{3}{10}$

24) $\frac{10}{13} + 1\frac{3}{10}$