6th Grade Assignment – Week #14

Individual Work:

- *Flashcards!* (Yes, learning these facts is still important.) Are you keeping up with the flashcard? The facts you should learned through flashcards are found on Sheet #2, Sheet #6, and Sheet #9. Learning these facts will help your future math studies. It only takes a couple of minutes per day.
- See how much you can do on Sheet #14 in the workbook. Notice that the last problem is our big hanging question, which we did in last week's lecture. You can either redo that problem again, or do the following (more challenging) problem:
  Convert $0.08\overline{621}$ into a fraction. (Answer: $\frac{8613}{99900}$ which reduces to $\frac{319}{3700}$)

Group Assignments:

Note for Parents: Make sure the students don't work on these problems before meeting with their groups, and make sure they don't see the answers until after they finish the problems.

For Tuesday: Choose which of the below problems you would like to do:

1) Convert $0.7291\overline{6}$ into a fraction.
2) What is 590°F in Celsius?
3) What is 19°C in Fahrenheit?
4) *Challenge!* Convert $0.021\overline{0396}$ into a fraction.

For Thursday: Puzzles!

5) A brick is 7¼ inches long and 3½ inches wide. A rectangular patio is made by placing bricks next to one another in 50 rows and 50 columns. What are the dimensions (length and width) of this patio?
6) Lori plans to make two chairs, where each leg is 15¾ inches long. The legs are all cut from a 2" by 2" piece of wood, and this wood is sold in lengths of 8, 10, 12, 14 and 16 feet. If Lori wants to buy only one (2" by 2") piece of wood, how long should it be?

6th Grade Math – Sheet #14

Memorized facts.

7) $16 \cdot 3$

8) 14^2

9) 16^2

10) Convert $\frac{1}{5}$

11) Convert $\frac{7}{8}$

12) Convert $0.\overline{8}$

13) Convert 0.25

14) 4^4

15) 2^6

16) 5^3

17) 2^4

18) 3^4

Do it in your head.

19) $106 \cdot 109$

20) $10.6 \cdot 1.09$

21) $2.15 \cdot 4$

22) $48000 \div 800$

23) $\left(\frac{7}{11}\right)^2$

24) $\sqrt{12100}$

25) $21000 \div 35000$

26) $40 \div 48$

27) $3 \cdot 999$

28) $9 \cdot 99999$

29) Convert $\frac{893}{1000}$

30) Convert $\frac{893}{10000}$

31) Convert $\frac{893}{999}$

32) Convert $\frac{893}{9990}$

33) Convert $\frac{71}{99900}$

34) Convert 0.47

35) Convert $0.\overline{47}$

36) Convert $0.0\overline{47}$

37) Convert $0.\overline{047}$

38) Convert $0.000\overline{0047}$

Division.

39) Leave your answer as a mixed number.

$441410000 \div 7000$

Decimals.

40) $345.9 + 65.93$

41) $345.9 - 65.93$

42) *Cast out nines* to check your answer.

$345.9 \cdot 65.93$

Fractions.

43) Reduce each fraction.

a) $\frac{28}{30}$

b) $\frac{7560}{8100}$

c) $\frac{900}{21000}$

Formulas.

Temperature conversion formulas:

$$C = \frac{5}{9} \cdot (F - 32)$$

$$F = \frac{9}{5} \cdot C + 32$$

44) What is 113°F in Celsius?

45) What is 52°C in Fahrenheit?

46) John works in a bike shop and earns $7.50 per hour plus $9 for every bicycle that he sells. Therefore, the formula that calculates his pay is:

$$P = 7.5 \cdot H + 9 \cdot B$$

Where H is the number of *hours* worked, B is the number of *bikes* that he sells, and P is his total *pay*.

a) How much pay does John earn if he works for 10 hours and sells 3 bikes?

b) How much pay does he earn if he works for 8 hours and sells 7 bikes?

Measurement.

47) Give the proper abbreviation for each.

a) Yard
b) Ounce
c) Pound
d) Meter
e) Centimeter
f) Millimeter
g) Kilometer
h) Liter
i) Milliliter
j) Gram
k) Milligram
l) Kilogram

48) Write a sign (<, >, =) between the two measurements that indicates which one is bigger, or if they are equal.

Example: 1ℓ 1qt

Solution: Since we know that one liter is slightly *greater than* one quart, we write: 1ℓ > 1qt

a) 1ft 14in
b) 1mi 5000ft
c) 36in 1yard
d) 1 lb 12oz
e) 1pt 3cups
f) 1qt 3cups
g) 1g 1000mg
h) 1kg 1000g
i) 1km 900m
j) 1m 200cm
k) 1cm 10mm
l) 5m 500cm
m) 7km 7000m
n) 1yd 1m
o) 1mi 1km
p) 1cm 1in

Converting repeating decimals to fractions.

Example: Convert $0.147\overline{72}$ into a fraction.

Solution: First we realize that $0.147\overline{72} = 0.147 + 000\overline{72}$.

We know that

$0.147 = \frac{147}{1000}$, and that

$0.000\overline{72} = \frac{72}{99000}$ (don't reduce!)

Since

$0.147\overline{72} = 0.147 + 0.000\overline{72}$

we can now say that

$0.147\overline{72} = \frac{147}{1000} + \frac{72}{99000}$

In order to get a common denominator, we multiply the numerator and denominator of $\frac{147}{1000}$ by 99, giving us $\frac{14553}{99000}$.

We now have

$0.147\overline{72} = \frac{14553}{99000} + \frac{72}{99000}$

which adds to $\frac{14625}{99000}$.

We reduce this fraction (by dividing the numerator and denominator by 25, 5, and 9) in order to give us a final answer of $\frac{13}{88}$.

49) *Convert to a fraction*. Make sure that your work is well organized and readable on a separate sheet of paper.

a) $0.71\overline{6}$

b) $0.3\overline{18}$