6th Grade Assignment – Week #21

Individual Work:

- Do problems #31-34 Sheet #17 in the workbook. **Note: This is the second week that we have worked on Sheet #17. Also, the week numbers no longer correspond to the sheet numbers.**
- Do the following problems:

1) What is 39% of 2000?
2) What is 78% of 60?
3) What is 25% of 80?
4) What is 75% of 80?
5) What is 80% of 75?
6) What is 30% of 4000?
7) What is 3% of 4000?
8) What is 10% of 540?
9) What is 1% of 540?
10) What is 100% of 13?
11) What is 200% of 13?
12) What is 2% of 13?
13) 300 is what % of 600?
14) 40 is what % of 200?
15) 12 is what % of 15?
16) 53 is what % of 530?
17) 11 is what % of 55?
18) 53 is what % of 80?

Group Assignments:

For Tuesday:

Business Calculations (If you wish, you may use the formulas from the main lesson.)

1) If a restaurant bill is for $120, how much do you need to pay if there is 7% tax?
2) If a store has a 35%-off sale, what is the discount price for an item that was originally marked at $90?
3) If Jos makes $23 per hour, how much does he earn each month given that he works 20 days per month, and 7½ hours per day?
4) What is Cathy's hourly rate of pay if she makes $660 in a 40-hour work week?

Abundant and Deficient Numbers

5) For each of the below numbers, do the following: (1) Write down all the factors; (2) State whether it is an abundant or deficient number; and (3) Calculate the abundance quotient, which is the sum of the factors (except for the number itself), divided by the number itself. Round your answer to 3 significant digits. (Answers are at the bottom of the page.)

   a) 30 b) 63 c) 11 d) 48

6) (If you still have time) *A Number Treasure Hunt*. Find the number that has the greatest abundance quotient for any number less than 175. (Hint: Its abundance quotient is equal to exactly 2.)

For Thursday: **Perfect Numbers!**

1) A *perfect number* is a number where the sum of the factors (except for the number itself) is equal to the number itself. In other words, a perfect number has an abundance quotient of exactly 1. Find the first two perfect numbers. (Hint: The first perfect number is less than 25, and the second perfect number is less than 50.)
2) The third perfect number is 496. Write down all of its factors, and show that it is a perfect number.

6th Grade Math – Sheet #17

Do it in your head.

1) $25 \cdot 4$
2) $16 \cdot 3$
3) $15 \cdot 4$
4) $13 \cdot 4$
5) 2^4
6) 3^3
7) 4^5
8) 5000^2
9) $\sqrt{\frac{4}{25}}$
10) $\frac{11}{12} - \frac{1}{2}$
11) $\frac{11}{12} \cdot \frac{1}{2}$
12) $\frac{11}{12} \div \frac{1}{2}$
13) $9000 \cdot 7000$
14) $7.34 \div 1000$
15) $560 \cdot 110$
16) $5000 \div 4$
17) $56 \div 32$
18) $420 \cdot 5$
19) $420 \div 5$

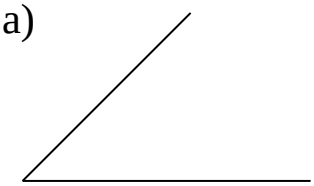
Estimate.

20) $6839 \cdot 5182$
21) $6839 + 5182$
22) 591^2

Angle Measure.

23) First estimate the size of the angle (in degrees), and then use a protractor to measure it. You may need to extend the lines (with a ruler) in order to get a good reading with your protractor.

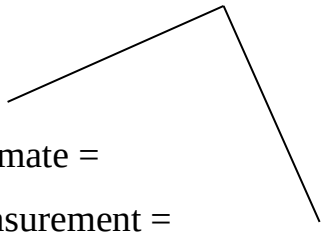
a)



Estimate =

Measurement =

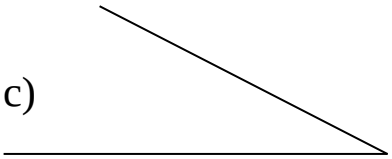
b)



Estimate =

Measurement =

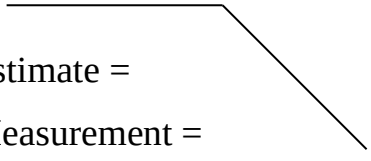
c)



Estimate =

Measurement =

d)



Estimate =

Measurement =

Decimals.

24) $5080 + 87.42$

25) $5080 - 87.42$

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

$87.54 \cdot 0.762$

Prime Factorization.

27) Give the prime factorization.

a) 300

b) 2736

c) 816750

28) Multiply the prime factorization out.

a) $2^3 \cdot 3$

b) $3^2 \cdot 5 \cdot 23$

c) $2^4 \cdot 5^4 \cdot 13$

Conversions.

As with the previous worksheet, before doing any of these, circle the ones that can be done in your head.

29) Convert to a decimal.

a) $\frac{5}{8}$

b) $\frac{7}{11}$

c) $\frac{23}{50}$

d) $\frac{23}{30}$

e) $\frac{89}{99}$

f) $\frac{7}{1000}$

g) $\frac{7}{999}$

h) $\frac{7}{900}$

i) $\frac{53}{99900}$

j) $\frac{29}{270}$

30) Convert to a fraction.

a) $0.\overline{3}$

b) 0.59

c) $0.\overline{59}$

d) 0.059

e) $0.0\overline{59}$

f) $0.0\overline{00059}$

g) $0.\overline{8}$

h) $0.\overline{110}$

i) $0.1\overline{10}$

j) $0.1\overline{6}$

k) $0.31\overline{756}$

31) Fill in the table.

Fraction	Decimal	Percent
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$		
$\frac{3}{4}$		
$\frac{1}{3}$		
$\frac{2}{3}$		
$\frac{1}{5}$		
$\frac{2}{5}$		
$\frac{3}{5}$		
$\frac{4}{5}$		
$\frac{1}{6}$		
$\frac{5}{6}$		
$\frac{1}{8}$		
$\frac{3}{8}$		
$\frac{5}{8}$		
$\frac{7}{8}$		
$\frac{3}{10}$		
$\frac{7}{10}$		
$\frac{1}{20}$		
$\frac{1}{25}$		
$\frac{1}{50}$		
$\frac{7}{100}$		
$\frac{41}{100}$		

Percents.

32) Convert each percent to a fraction.

a) 93%

b) 3%

c) 15%

d) 12%

33) Convert each percent to a decimal.

a) 93%

b) 3%

c) 15%

d) 12.8%

34) What is…

a) 50% of 280?

b) 10% of 280?

c) 25% of 280?

d) 20% of 280?

e) 1% of 280?