6th Grade Assignment – Week #22

Individual Work:

- Do as much as you can with Sheet #18 in the workbook.

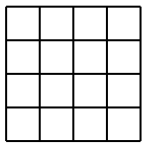
Group Assignments:

For Tuesday:

1) **Abundant and Deficient Numbers.** Calculate the abundance quotient for each of the below numbers. Round your answer to 4 significant digits.

   a) 25 b) 70 c) 945, which is the first odd abundant number

2) **Puzzle! Arranging Letters.** Place four A's, four B's, four C's and four D's into the grid such that no two of the same letter appear in the same line, horizontally or vertically, nor along the two main diagonals. You must start with A, B, C, D on the top row.



For Thursday: **Perfect Numbers!** (This is a huge challenge!! Try your best!)

You may have noticed that in Monday's lecture that I gave you several perfect numbers, but I didn't give you the fourth and fifth perfect numbers. Find the fourth and fifth perfect numbers. (Hints: The first three perfect numbers are 6, 28, and 496. The fourth one is greater than 5000, and the fifth one is greater than one million.)

6th Grade Math – Sheet #18

Do it in your head.

1) $15 \cdot 5$
2) 16^2
3) 13^2
4) $25 \cdot 6$
5) Convert $\frac{2}{3}$
6) Convert $\frac{2}{5}$
7) Convert $\frac{56}{99}$
8) Convert $\frac{56}{999}$
9) Convert $\frac{9}{11}$
10) Convert $\frac{1}{20}$
11) Convert $\frac{93}{100}$
12) Convert $\frac{9}{1000}$
13) Convert $0.8\overline{3}$
14) Convert 0.875
15) Convert $0.\overline{74}$
16) Convert 0.13
17) Convert 0.0013
18) Convert $0.00\overline{13}$
19) 3^4
20) 2^6
21) 5^3
22) $24000 \div 600$
23) $5.5 \cdot 4$
24) $0.105 \cdot 0.108$
25) $516 - 497$
26) $5 \cdot 999$
27) $24 \cdot 99$
28) $3.6 \cdot 5$
29) $3.6 \div 5$
30) $\sqrt{64000000}$
31) $\left(\frac{11}{80}\right)^2$
32) $27 + 3.2$
33) $27 - 3.2$
34) $0.4 \cdot 0.008$
35) $0.4 \div 0.008$

Fractions.

36) What is half of $\frac{8}{13}$?
37) What is half of $\frac{7}{13}$?
38) What is $\frac{9}{19}$ doubled?
39) What is $\frac{9}{20}$ doubled?
40) $\left(3\frac{1}{8}\right)^2$
41) $46\frac{2}{9} - 28\frac{4}{5}$
42) $\dfrac{5\frac{3}{5}}{1\frac{2}{5}}$
43) $5\frac{3}{5} \div 4$
44) $5\frac{3}{5} \cdot 4$

Conversions.

45) Convert to a fraction.
$0.05\overline{30}$
46) Convert to an exact decimal.
$\frac{59}{444}$

47) For each pair, determine which is bigger and by how much.

a) $\frac{19}{32}$ and $\frac{5}{8}$

b) $\frac{1}{7}$ and $\frac{3}{23}$

c) 58% and 56%

48) What is the advantage of percents?

Statistics.

49) Find the *Mean*, *Median*, and *Mode* of these scores.

25, 35, 16, 9, 28, 25, 16, 31, 16

50) *Unit Cost.*
Eight roses cost $10.32. How much do five roses cost?

Calculating a percentage of a number.

Example: What is 60% of 350?

Here are two different methods to solve the problem:

The Fraction Method:
We rephrase the question as: "What is $^3/_5$ of 350?" So we do:
$\frac{3}{5} \cdot 350$, which is 210.

The Decimal Method:
We rephrase the question as: "What is 0.6 times 350?" So we do:
$0.6 \cdot 350$, which is 210.

51) Look at the above example, and then do each problem *both* as a fraction problem and as a decimal problem.

What is…

a) 50% of 32?
Using the fraction method:

Using the decimal method:

b) 25% of 4800?
Using the fraction method:

Using the decimal method:

c) 75% of 12?
Using the fraction method:

Using the decimal method:

Percents.

52) Convert to a fraction.

a) 69%

b) 35%

53) Convert to a decimal.

a) 53%

b) 4%

54) Convert to a percent.

a) 0.81

b) 0.06

c) $\frac{47}{100}$

d) $\frac{4}{5}$

55) 210 is what percent of 350?