6th Grade Assignment – Week #30

Individual Work:

- Do as much as you can with Sheet #25, except for #15, 16, 17, which should be saved for your group work.

Group Assignments:

For Tuesday

- Work together on the foreign exchange problems on Sheet #25. Do it in this order:
    - Read through the middle column of the page (including the **Tips** and the **Three Questions**) and make sure everyone understands it.
    - Read the example in the right column and make sure everyone understands it.
    - Together, do problems #15, 16, and 17.
- If you still have time left over, then start the puzzles listed for Thursday, below.

For Thursday

- **Comparing Money**
  Ron has $4 more than half as much as Tim. Paula has ¾ as much as Ron. How much do the three of them have combined, if Paula has $24?
- **Weighing Quarters**
  One quarter weighs 0.2 ounces. How many pounds does $100 in quarters weigh?
- **Cutting a Board**
  How long does it take to cut a 12-foot board into 12 one-foot pieces, if each cut takes 30 seconds? (Hint: it's not 6 minutes.)
- **Summing Primes**
  a) Find three prime numbers that have a sum of 41.
  b) Find four prime numbers that have a sum of 41.
- **The Hungry Cat**
  A cat ate 100 mice in 5 days. On each day (except the first) he ate 3 more mice than he did the day before. How many mice did he eat on the first day?

6th Grade Math – Sheet #25

Do it in your head.

1) $15 \cdot 3$

2) $16 \cdot 4$

3) 18^2

4) 3^3

5) 2^4

6) 4^5

7) $1.1 \cdot 6.9$

8) $6 \div 1000$

9) $150 \div 240$

10) 1800^2

11) $\sqrt{0.04}$

12) Convert to a percent.

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

b) $\frac{5}{6}$

c) $0.\overline{8}$

13) Convert to a fraction.

a) 20%

b) 33⅓ %

c) 0.004

14) Convert to a decimal.

a) $\frac{9}{20}$

b) $38.\overline{4}$ %

c) 9½%

d) 4⅓ %

Foreign Exchange.

Bob's Bank in Texas has its foreign exchange rates posted as:

Canadian Dollar (CN$)
Buy US$0.75 / CN$
Sell US$0.80 / CN$

Mexican Pesos (MP)
Buy US$0.08 / MP
Sell US$0.12 / MP

Tips for doing foreign exchange rate problems:

- Whenever an exchange of foreign currency takes place between a bank and a customer, each party is *buying* one currency and *selling* the other currency.
- If you are *buying* pesos from the bank, you are also *selling* U.S. dollars to the bank. At that same moment, the bank is *selling* pesos and *buying* U.S. dollars.
- The exchange rates listed at any bank are always given in terms of whether *the bank* is selling or buying the foreign currency, not whether you are buying or selling the foreign currency.
- **To do a foreign exchange calculation, you must answer three questions:**
  1. Which currency is worth more?
  2. Is the bank *buying* or *selling* the foreign currency?
  3. Should we divide or multiply by the given rate?

Example:
At Bob's Bank, how many pesos do you get for $50?

Solution:
Answering the three questions, we get:

1. A dollar is worth more than a peso.
2. The bank is *selling* pesos.
3. Since the *selling* rate for pesos is 0.12, we can see that we must *divide* 50 by 0.12, resulting in an answer of 417 pesos (rounded to the nearest peso).

   If we had mistakenly *multiplied* 50 by 0.12, we would have gotten an answer of 6.0 pesos, which would obviously not be a good deal.

15) At Bob's Bank, how many U.S. dollars do you get for 2000 pesos?

16) How many Canadian dollars do you get for US$380?

17) How many pesos do you need to give the bank in order to get US$80?

Fractions, Decimals & Percents.

18) $13 - 4\frac{3}{11}$

19) $\frac{6}{6\frac{2}{5}}$

20) What is 9% of 230?

21) What is 16⅔% of 42?

22) 62 is what percent of 487? (Round your answer to three significant digits.)

Ratios.

23) What is the ratio of men to women in a university that has approximately 2700 men and 2250 women?

Rates.

24) Jane earned $363.20 in 32 hours of work. What is her hourly wage?

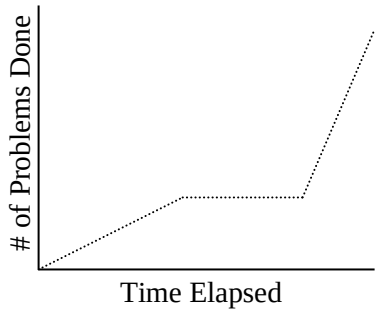
25) A train is traveling at 75mph.

a) How far does the train go in 4 hours and 20 minutes?

b) How long does it take the train to go 2000 miles?

Line Graphs.

26) The graph below shows the rate at which Mike did his math homework. Describe specifically what the graph shows.



27) Review the line graph from the end of the previous worksheet. Construct, as neatly and accurately as possible, a similar line graph given the data below. You will need to carefully measure the intervals along the vertical and horizontal axes.

Boulder's Population

Year	Population
1920	11,006
1930	11,223
1940	12,958
1950	19,999
1960	37,718
1965	51,000
1970	66,870
1975	79,000
1980	76,685
1985	83,000
1990	83,312
1995	96,000
2000	94,673