6th Grade Assignment – Week #32

Individual Work:
- Do as much as you can with Sheet #27.
- Pat yourself on the back for finishing the 6th grade workbook!

Group Assignments: (for either Tuesday or Thursday.)

- **Stick Puzzles**
  With each puzzle, every stick must be part of a square.
  No two sticks may be placed on top of each other or side by side.

  a)   Move three sticks
         so that you end up with
         exactly five squares.

  c)   Move three sticks
         so that you end up with
         exactly three squares.

  b)   Move three sticks
         so that you end up with
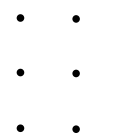   exactly four squares.

  d)   Move two sticks so
         that you end up with
         exactly seven squares.

- **Connect the Dots Square.**
  Without lifting your pencil off the page, draw four
  straight lines (using the drawing on the right) such
  that each of the nine dots has a line passing through it.
  You may not retrace a portion of a line.

- **Siblings.**
  a) Mrs. Harrison has five daughters. Each of these daughters has two brothers. How many children does Mrs. Harrison have?
  b) Ian and Sarah are siblings. Ian has twice as many sisters as brothers, and Sarah has twice as many brothers as sisters. How many children are in the family?

- **Missing-Digit Multiplication.** Fill in the missing digits (indicated by "?")

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        ??3
    x  2??
       ?1?7
       ?7?0
  +  ?14?00
      ?25???
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6th Grade Math − Sheet #27

Do it in your head.

1) $25 \cdot 4$

2) $1.5 \cdot 4$

3) $0.16 \cdot 3$

4) $130 \cdot 4$

5) 5^4

6) 20^5

7) $(0.4)^3$

8) 7000^2

9) $7.362 \cdot 100$

10) $1.1 \cdot 8.8$

11) $900 \div 4$

12) $8 \div 999$

13) $4800 \div 5400$

14) $\sqrt{\frac{49}{810000}}$

15) $\frac{3}{11} \cdot \frac{4}{11}$

16) $\frac{3}{11} \div \frac{4}{11}$

17) $\frac{3}{11} + \frac{4}{11}$

18) $\frac{3}{11} + \frac{3}{8}$

19) Convert to a percent.
  a) $^3/_5$

  b) $^1/_4$

  c) $^5/_9$

  d) $^1/_8$

20) Convert 6% to a fraction.

Percents.

21) What is 83⅓% of 120?

22) What is 2% of 510?

23) 3500 is what percent of 5600?

24) A pair of skis at a sports store is normally priced at \$475. What is the new discounted price if the store is having a 40%-off sale?

25) *Unit Cost.*
A hotel room costs \$130 for four days. What does it cost for a full week?

Rates.

26) The Skip bus is scheduled to leave Lee Hill and Broadway at 3:27 and to arrive at the University, 3½ miles away, at 3:47. What is the bus's average speed?

27) The Thalys train is scheduled to depart from Brussels Midi at 7:11 and then to arrive at Paris Nord at 8:35. What is the average speed for the trip given that the distance between the two stations is 210 miles?

Compound Fractions.

28) $\dfrac{\frac{5}{8} - \frac{1}{3}}{7 - \dfrac{8}{2\frac{1}{7} \cdot 2\frac{4}{5}}}$

29) $\dfrac{2^{1}/_{3} - \dfrac{^{1}/_{2}+^{1}/_{3}}{2} - \dfrac{1}{4} \cdot \dfrac{1}{3}}{\dfrac{1}{2 - ^{4}/_{5}} + 1}$

30) $\dfrac{3}{3 - \dfrac{3}{3 - \dfrac{3}{3 - ^{1}/_{3}}}}$

Foreign Exchange.

Use the rates given on the previous two worksheets to answer the following questions.

31) At Bob's Bank, how many U.S. dollars do you get for CN$200?

32) At Bob's Bank, how many Canadian dollars do you need to pay in order to get US$300?

33) At Clara's Bank, how many pounds do you get for US$380?

34) At Clara's Bank, how many pounds do you need to pay in order to get US$380?

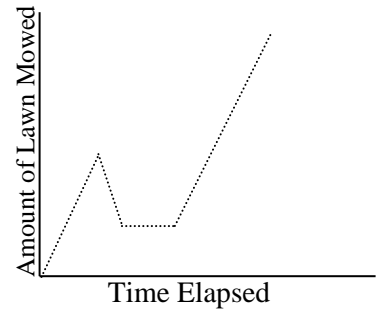35) Ken's Bank (located across from Clara's) has its rates posted as:

Buy £0.603/$
Sell £0.637/$

Should you exchange dollars into pounds at Ken's or at Clara's?

Line Graphs.

Review the line graphs from the previous sheet.

36) Explain why the graph below would be impossible.

37) Explain how the graph below could show the progress during Jane's cycling trip.