Answers
for Grade 7 Group Assignments - Quarter #3

<u>Notes for Parents</u>:
- Answers for group assignment problems that are out of the workbook can be found in the "G7 Workbook Answer Key".
- It is probably best not to give this document to the students, as it might spoil it for them.
- This answer key doesn't include all answers.

Week 17

<u>*for Tuesday*</u>.

   1) 9   2) 17   3) 11   4) 37

<u>*for Thursday*</u>.

   5)

Tristan (Melbourne):
From the start of school (August) until October 4, there is a 16-hour time difference, and therefore 4pm MT Friday is 8am Saturday for Tristan. From October 4 until November 1st, there is a 17-hour time difference, because Tristan's clock moved forward one hour on October 4th. Therefore, 4pm MT is 9am for him. From November 1st through March 14 there is an 18-hour time difference between Colorado and Melbourne, because on November 1st Colorado's clocks went back one hour, therefore class for Tristan is at 10am. From March 14 through April 4, the time difference is 17 hours, because on March 14 the US moved forward one hour, and therefore class for Tristan is at 9am. From April 4 until the end of the school year, class is again at 8am for Tristan, because on April 4 Australia's clocks moved backwards one hour.

James (Hawaii):
From the start of school until November 1st, the time difference is 4 hours, so class for James is at 12pm. From November 1st until March 14th the time difference is 3 hours (Colorado went back one hour on November 1st) so class for James is at 1pm. From March 14th until summer break class is at 12pm for James again, because the clock went forwards one hour in Colorado on March 14th.

6) a) 700   b) 1.2   c) .12   d) 38   e) 66   f) 352

Week 18

for Tuesday.

   1) Method 1: Split numbers 1-50 and 51 to 100. Add small number to big number in pairs that add to 101: 1 + 100, 2 + 99, 3 + 98, etc). This gives us 50 of these 101s, which is 50*101 = 5,050.
   Method 2: Create pairs that add to 100: 1 + 99, 2 + 98, 3 + 97, etc. This gives us 49 pairs of 100 – 4,900. Then we have to add the last 100, and 50, to get 5,050.

   2) 15 C   3) 104 F   4) 27.78 C   5) 62.6 F

for Thursday.

   1) D = 16T^2   2) 3 seconds: 144 feet   3) 20 seconds: 6,400 feet
   Answer #3 is not realistic because this formula does not take air resistance into account.

6) negative $5	9) negative $21	12) positive $17	14) 3 days
7) positive $5	10) positive $3	13) negative $92	15) 16, ¼, $^7/_4$
8) positive $5	11) positive $11		

Week 19   No answer needed.

Week 20   No answer needed.

Week 21

2) We need to add 1+2+3+4+…+199. One easy way to do this is to add them in pairs: (1+199) + (2+198) + (3+197) +…We then notice that each pair adds to 200, and that there are 99 pairs, with the number 100 having no partner. Therefore, the total sum is 200*99+100, which is <u>19,900 yards, or about 11.3 miles</u>.

3)

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a)      23              b)       38            c)      573
     7 ⟌161               50 ⟌1900                   x  219
      -14                    -150                     5157
       21                     400                     5730
      -21                    -400                 +  114600
        0                       0                    125487
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4)   16 and 19

Week 22

1)   10 cents
2)   Here is the solution:

Week 23

   A Generous King.
   This is a preview of the idea of factorial. It is indeed surprising how quickly the number of coins grows. The twelfth person should receive $1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7 \cdot 8 \cdot 9 \cdot 10 \cdot 11 \cdot 12 = 479,001,600$ gold coins.

Week 24.

*Answer for Seventh Grade Math Tricks – **Sheet #1**.*

1) 210000	7) 7	13) 14	19) 43.2	25) 160	31) 5994
2) 0.0054	8) 11232	14) 0.$2\overline{87}$	20) 1591	26) 8800	32) 623
3) 900	9) 990	15) 792	21) 70000	27) $^3/_5$ or 0.6	33) 11760
4) 286	10) 3.6	16) 25300	22) 377	28) 624	34) 35
5) 4800	11) 3364	17) $^2/_3$ or 0.$\overline{6}$	23) 4225	29) 2704	35) 6384
6) 930	12) 16	18) 130	24) 6	30) 0.$\overline{00}7$	36) 2400

*Answer for Seventh Grade Math Tricks – **Sheet #2**.*

1) 3	7) 45	13) 90000	19) 440	25) 5609	31) 1575
2) 0.0058	8) 7216	14) 42000	20) 1260	26) 0.$\overline{2}3\overline{4}5$	32) 1200000
3) 4.2	9) 39	15) 1860	21) 6.6	27) 3136	33) 44000
4) 220	10) 0.4691	16) 3599	22) 8470	28) 229977	34) 4600
5) 836	11) 6993	17) 9000	23) 40	29) $^4/_3$ or 1.$\overline{3}$	35) 472
6) 11130	12) 0.8	18) 13225	24) 516	30) 11770	36) 0.8