



Diversions

Saturday, 21 Aug 2010

Word Arithmetic

These are long-division problems in which letters are substituted for numbers. Determine the number value of each letter. When the letters in each one have been arranged by their corresponding numbers from 0 to 9, they will spell out a word or words.

$$\begin{array}{r}
 \text{T O S F} \\
 \text{S C F} \overline{) \text{K U L T B O}} \\
 \underline{\text{C F F}} \\
 \text{E S E T} \\
 \underline{\text{E E O B}} \\
 \text{U T B} \\
 \underline{\text{F U B}} \\
 \text{E L B O} \\
 \underline{\text{E O S F}} \\
 \text{E U K}
 \end{array}$$

$$\begin{array}{r}
 \text{U A S N} \\
 \text{I T S} \overline{) \text{A I L L H I I}} \\
 \underline{\text{A H I U}} \\
 \text{A U T H} \\
 \underline{\text{I T S}} \\
 \text{C E E I} \\
 \underline{\text{C I A S}} \\
 \text{U T A I} \\
 \underline{\text{U N H T}} \\
 \text{C H E}
 \end{array}$$

$$\begin{array}{r}
 \text{R A T O} \\
 \text{E I R} \overline{) \text{Z O D T P Z}} \\
 \underline{\text{E I R}} \\
 \text{S I T} \\
 \underline{\text{S E A}} \\
 \text{A D P Z} \\
 \underline{\text{A D A O}} \\
 \text{S}
 \end{array}$$

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

Word Problem

A gardener plants seven trees. The trees are planted in six straight lines with three trees in each line. How did the gardener plant the trees?

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Solutions

to Diversions of Friday, 20 Aug 2010
and Saturday, 21 Aug 2010

Letter Cubes

A set of four cubes has a distinct letter of the English alphabet on each face. The four cubes can be arranged to form the following words.

BOWL JUNK BUOY MATH CLUE SLEW FLAW TUSK FROM VEAL GAIN WIDE JUMP ZERO

If the four cubes contain 24 different letters, which letters appear on each of the four cubes?

Solution:

Cube 1 - A, C, D, J, O, S; Cube 2 - B, E, F, N, P, T; Cube 3 - G, H, R, U, V, W; Cube 4 - I, K, L, M, Y, Z

Word Problem

Jane and John share a flock with N sheep. They sell the sheep for $\$N$ each. They are paid in $\$10$ and $\$1$ bills. There are fewer than 10 $\$1$ bills. When they divide the money, Jane takes a $\$10$ bill and then John takes a $\$10$ bill, then Jane and then John, and so on. Jane takes the first and last $\$10$ bill. Jane offers the remaining $\$1$ bills to John. If they are supposed to divide the money equally, how much more money should Jane give to John?

Solution: Jane and John will receive $\$N^2$. Since there are an odd number of $\$10$ bills, N^2 must have an odd number of tens. If we look at the first few perfect squares with an odd number of 10s, **16**, **36**, **196**, we see that they all end in 6. This is true in general. (Why?) Since Jane has a $\$10$ bill and John has 6 $\$1$ bills, Jane must give John $\$2$ to be equal.

Word Arithmetic

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Solutions:

B	E	S	T	O	F	L	U	C	K
<hr/>									
0	1	2	3	4	5	6	7	8	9

L	A	U	N	C	H	S	I	T	E
<hr/>									
0	1	2	3	4	5	6	7	8	9

T	R	A	P	E	Z	O	I	D	S
<hr/>									
0	1	2	3	4	5	6	7	8	9

Word Problem

A gardener plants seven trees. The trees are planted in six straight lines with three trees in each line. How did the gardener plant the trees?

