TEXAS A&M UNIVERSITY
DEPARTMENT OF MATHEMATICS
MATH FAIR CONTEST
GRADES 1-4

APRIL 22, 2012

Problem 1. What number should come next in the list 2, 5, 8, 11, 14, . . . ?

Problem 2. What number should come next in the list 2, 8, 3, 3, 8, 2, 2, 8, 3, 3, . . . ?

Problem 3. Calculate $2 + 3 - 4 + 5$.

Problem 4. Calculate $17 + 18 + 19$.

Problem 5. Calculate $7 \times 8 - 5 \times 6$.

Problem 6. Calculate $(5 + 19) \div 6 + 6$.

Problem 7. How many sides (all together) do 3 triangles and 4 squares have?

Problem 8. The floor in a room that is 10 feet long and 15 feet wide needs to be covered with tiles. If the size of the tiles is 6 by 6 inches, how many tiles are needed for the job?
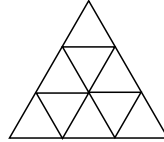
Problem 9. Imagine that you have seven quarters, three dimes, and one nickel. If the ice cream you want to buy costs 3 dollars how many cents do you still need?

Problem 10. I had some number of marbles. I counted them and I gave half of them to my sister. The next day I lost one. On the third day I counted them again and I gave half of what I had to my brother. Now I have 7 marbles. How many did I have to begin with?

Problem 11. Farmer Joe has some number of pigs and some number of chickens. He counted one day that the pigs and the chickens together have 30 legs and 18 wings. How many pigs does farmer Joe have?

Problem 12. I had several straight pieces of wood each of which was 2 feet long. Without cutting any piece I built 12 triangles out of them. How many squares could I have build from the same pieces (still without cutting, of course)?
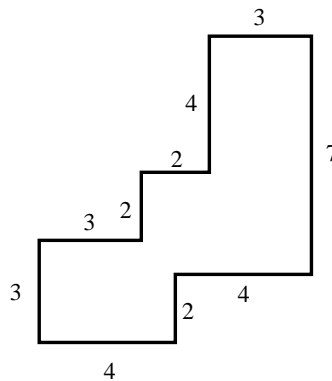
Problem 13. How many different triangles (of any size) can be seen in the following figure?

Problem 14. Jane wrote all numbers from 1 to 100 on the board. How many times did she use the digit 1?

Problem 15. The numbers 1,2,3,4,5,6,7,8,9 are written, in some order, in three rows, three numbers in each row. Bill noticed that the sum of the numbers in each row was the same. If the first two numbers in the first row are 8 and 1 what is the third number in that row?

Problem 16. What is the perimeter of the following figure (the length of each side is indicated with a number)?

Problem 17. What is the area of the figure in the previous problem?

Problem 18. In a certain month, there were three Sundays on even dates (the day of the month was even). What day (Monday, Tuesday, ...) was the 14th day of that month?

Problem 19. One day John said "two days ago I was 8 years old, and next year I will be 11". When is John's birthday (what date)?

Problem 20. I have several stickers and my sister has some of her own. If I gave her one of my stickers she would have the same number of stickers as me. But if she gave me two of hers, I would have three times as many as she has. How many stickers do I have?