

Texas A&M University - Department of Mathematics  
Math Fair Contest - April 20, 2013  
Grades K - 2

**Problem 1.** What number should come next in the list 3 , 7 , 11, 15, 19, ...?

**Problem 2.** What number should come next in the list 19, 17, 15, 13, 11, ...?

**Problem 3.** What number should come next in the list 5, 4, 6, 3, 7, 2, 8, ...?

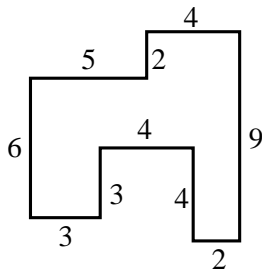
**Problem 4.** How many sides do three triangles and two squares have altogether?

**Problem 5.** Calculate  $6 + 7 - 8 + 9 - 10$ .

**Problem 6.** Calculate  $13 + 18 + 23$ .

**Problem 7.** Calculate  $3 \times 5 - 4 \times 2$ .

**Problem 8.** A certain fenced yard has an irregular shape as in the following figure. What is the total length of the fence (the length of each fence side is indicated with a number)?



**Problem 9.** Imagine that you had three quarters, two dimes, and three nickels. If you gave 40 cents for a sticker to your friend, how many cents do you still have?

**Problem 10.** Billy has 3 yards of blue rope and 24 inches of green rope. How many feet of blue and green rope does he have altogether?

**Problem 11.** A square dancer is facing the music band all the time and he makes 5 steps to the right, 3 steps straight ahead, 7 steps to the left, and then 6 backwards. How many steps to the right and how many steps straight ahead does he need to make to get back where he started?

**Problem 12.** I have some number of chocolates, and my sister has twice as many as I have. Together we have 12 chocolates. How many chocolates does my sister have?

**Problem 13.** What is the largest possible number that is smaller than 400 and can be written by using each of the digits 2, 3, and 5 exactly once?

**Problem 14.** Jane wrote all numbers from 1 to 20 on the board. What is the total number of digits she used to write all those numbers?

**Problem 15.** What two digits should be used to replace two stars in the following calculation

$$\begin{array}{r} 2 * \\ + * 5 \\ \hline 7 1 \end{array}$$

in order to obtain a correct calculation of a sum of two numbers.

**Problem 16.** Grandma Rachel has 3 large dogs and 4 small ones. Every day grandma gives 17 dog cookies to her dogs, and each large dog gets one cookie more than each small dog. How many cookies does each large dog get every day?

**Problem 17.** Judy played soccer with her team every day during the last week. She scored 4 goals on Thursday, and she scored fewer than 4 goals on each of the other 6 days. What is the largest number of goals she could have scored during the last week?

**Problem 18.** Judy played soccer with her team every day during the last week. She scored 4 goals on Thursday, she scored fewer than 4 goals on each of the other 6 days, and she scored at least once every day. What is the smallest number of goals she could have scored during the last week?

**Problem 19.** Sam likes to count. His yard has the shape of a rectangle. There is a fence post in each corner of the yard and there are a few more posts supporting the fence. Sam walked around one day and counted the posts. He noticed that there were 7 posts along the front side and 7 posts along the back side of the yard. He also noticed that there were 5 posts along each of the other two sides of the yard. How many posts are there all together?

**Problem 20.** At some moment between 4 and 5 o'clock John looked at the clock and noticed that the large hand is exactly two minutes ahead of the small hand on the dial. What was the time at that moment?