

Enatai Math Challenge 1

November 2008

These problems are labeled in order of increasing difficulty. Choose the one that you think fits your grade and math ability and solve the problem. People at home can help you. You will need to submit your answer using the R-E-C format that is explained on the attached form. Be certain to put the letter of the problem, your name and your teacher's name on the form when you submit it. All solutions are due to Mrs. Gaylord by Friday, November 28. Bring your completed R-E-C form to the office and place it in the box marked: MATH CHALLENGE. Students who successfully complete the challenge with the correct answer and a logical explanation of their mathematical thinking will receive a certificate. Happy Problem Solving!!!



Primary Problem A

Five curious cats went exploring in a freshly painted room. Four of the cats got paint on their front paws and one got paint on its back paws. How many paws didn't have any paint on them?

Primary Problem B

The bat in *Stellaluna* (Cannon 1993) loves fruit. If she eats 2 pounds of grapes a day, how many pounds will she eat in a week? In the month of November?



Primary Problem C

In 1932 the trumpeter swan, the largest of North American waterfowl, was in danger of becoming extinct. Only 69 of these birds were known to be alive at that time. Today there are more than 16,000 trumpeter swans. How many years ago were they in danger? What is the difference between the total number of these swans then and now?

Primary Problem D

Assume that a plant grows at a constant rate and that the length of its stem increases by 11 millimeters each day. Make a table showing the plant's height over 10 days. What type of graph would best represent these data? Make a graph of the plant's growth over these 10 days. Then predict the plant's growth over 35 days.



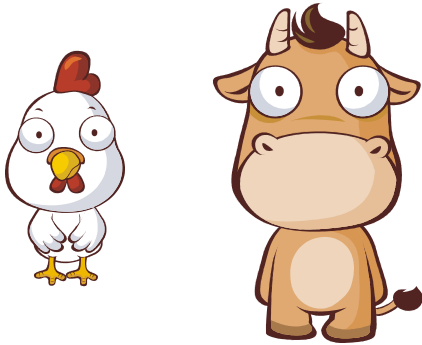


Intermediate Problem E

A farmer was selling his produce at the market. He had 50 small baskets with 3 tomatoes in each basket. By the end of the first day he had sold half of his tomatoes. How many tomatoes did he start with? How many tomatoes did he have left after the first day? If he sold 21 more tomatoes the following day, how many would he have left?

Intermediate Problem F

What shall we wear for the game? Each member of the class volleyball team has three uniform shirts of different colors (turquoise, black, and white) and four pairs of uniform shorts of different colors (turquoise, black, white, and gray). What are all the combinations that they could possibly wear? How many different outfits is that?



Intermediate Problem G

Ray helps raise chickens and cows on his family's farm. When he looks over the fence, he counts eight heads; when he looks under the fence, he counts twenty-two legs. Do you think that he has more chickens or cows? How many of each animal does he have?

Super-Duper Challenge Problem

I am thinking of a number N . Use these clues to find N :

- N is the sum of two palindromes*
- Each palindrome is a three-digit number
- One of these palindromes is a perfect square, and the other palindrome is a perfect cube
- N is a three-digit number
- N is not a palindrome

*A palindrome is a number that looks the same whether the digits are read from left to right or from right to left. The numbers 252; 1441; and 30,503 are examples of palindromes.