

Math Kangaroo Homework #4

Since the Math Kangaroo is coming up in March, we will be solving Math Kangaroo problems for homework. Each week, I will give two Math Kangaroo problems that have showed up previously on real exams. Please solve each problem and provide **complete solutions** (this means showing your work, writing a short explanation for each step, and putting a box around your final answer). **These problems will be collected at the beginning of each class.**

Math Kangaroo 2009 #20

A certain vase contains four flowers: one red, one blue, one yellow and one white. Maia the Bee sat on every flower in the bouquet only once. She started with the red flower, and she did not fly directly from the yellow flower to the white flower. In how many ways could Maia sit on all the flowers?

More on the back!

Math Kangaroo 2013 #24

A square box is filled with two layers of identical square pieces of chocolate. Kirill has eaten all 20 pieces in the upper layer along the walls of the box. How many pieces of chocolate are left in the box?