Proportional Reasoning

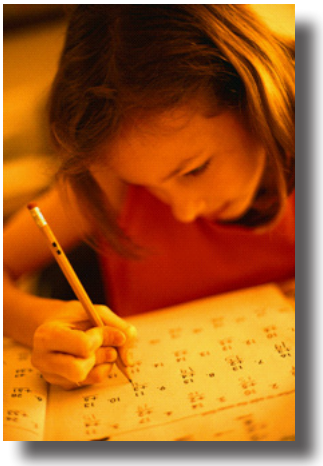
2. The jewels in a crown

Try to solve this problem by just thinking about it. No formulas or equations! But Yes, do make drawings!

The idea is to make you think. Don't look at the solution immediately!

The jewels in a crown consist of diamonds, rubies, and emeralds. If the ratio of diamonds to rubies is 5/6 and the ratio of rubies to emeralds is 8/3, what is the least number of jewels that could be in the tiara?

This is my solution:



In order to keep proportions, we can only multiply by positive integers the given ratios.

So the problems boils down to find the lowest common multiple (LCM) between 6 and 8, being rubies involved in both ratios.

The rest follows accordingly as in a domino game.

So the LCM between 6 and 8 is 24. And the original proportions must be multiplied accordingly (by 4 and by 3) because the rubies must be now 24 (so from 6 to 24 is multiplying by 4, and from 8 to 24 is multiplying by 3)

so there must be 24 rubies, then 20 diamonds (5 x 4) and 9 emeralds (3 x3)