Math Kangaroo 2011 Sample Questions - Levels 7 & 8

2. Ellie has 5 cubes and 3 tetrahedrons. How many sides do these solids have all together?

A) 42   B) 48   C) 50   D) 52   E) 56

3. A pedestrian crosswalk consists of alternating white and black stripes. The crosswalk begins and ends with a white stripe. How wide is the crosswalk, if every stripe is 50 cm wide and there are 8 white stripes in all?

A) 7 m   B) 7.5 m   C) 8 m   D) 8.5 m   E) 9 m

12. During three consecutive games the soccer team FC Kangaroo made a total of three goals and had one goal scored against them. This soccer team won one of these three games, lost one game, and tied one game. What was the final score of the game that FC Kangaroo won?

A) 2 - 0   B) 0 - 1   C) 1 - 0   D) 2 - 1   E) 3 - 0

13. A jeweler had 9 pearls which weighed 1 g, 2 g, 3 g, 4 g, 5 g, 6 g, 7 g, 8 g, and 9 g, respectively. He made 4 necklaces and in each necklace set 2 of these pearls. The pearls in each necklace weighed 17 g, 13 g, 7 g, and 5 g, respectively. What is the weight of the pearl that was not set in any of the necklaces?

A) 1 g   B) 2 g   C) 3 g   D) 4 g   E) 5 g

24. Inside a square with a side length equal to 7 cm there is a square with a side length equal to 3 cm. A third square with a side length equal to 5 cm intersects each of the other two squares (see illustration). The difference between the area of the black region and the sum of the areas of the shaded region is

A) 0 cm²   B) 10 cm²   C) 11 cm²   D) 15 cm²   E) impossible to determine.

25. During target practice Bob can earn 5, 8, or 10 points for hitting the target. He hit the 10 point mark as many times as he hit the 8 point mark. Altogether, Bob managed to earn 99 points while missing the target 25% of the time. How many times did Bob fire at the target?

A) 10   B) 12   C) 16   D) 20   E) 24