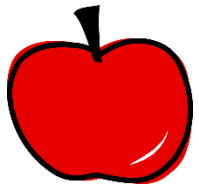
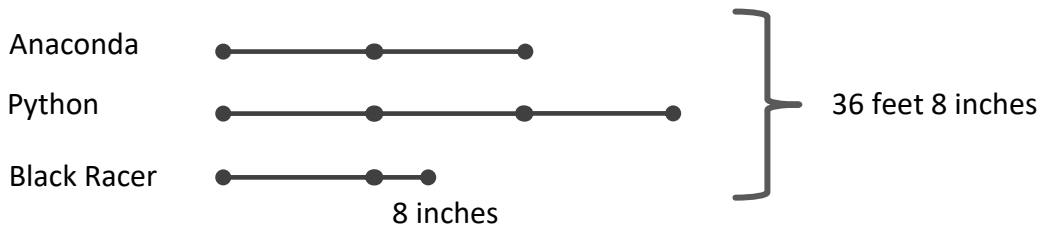


Junior Circle 2, Problem Set 6

1. Winnie the Pooh and Piglet came into possession of three apples, which are weighing 200gr, 300gr, and 450gr. Winnie has the first pick: he chooses an apple, and Piglet chooses an apple after him, and they start eating. Both animals eat with the same speed; whoever finishes his apple first, takes the remaining apple. Both Winnie and Piglet are greedy: each animal wants to maximize his share. What should Winnie's first pick be?



2. Make a problem based on this diagram and solve it.



3. Two flights of stairs have the same height and length, but a different number of steps: one has 7 and the other has 9. Do you think a carpet that is just long enough to cover the first flight will suffice to cover the other flight as well? Why?



4. Fill the empty squares with the numbers from 0 to 9 without repetitions in such a way as to get a set of correct equalities. Find all possible solutions (if two solutions differ by the order of the terms, they are the same.)

$$\square + \square = \square\square$$

$$\square + \square = \square$$

$$\square + \square = \square$$

5. Kenga, Piglet, Rabbit and Little Ru took part in the jumping contest. Before the competition, they predicted the results to Winnie the Pooh:

Little Ru: I'll be the second, Piglet will be the third.
 Kenga: I'll be the second, Little Ru will be the first.
 Rabbit: I'll be the second, Piglet will be the fourth.



It turned out that everybody made one correct prediction, and one wrong prediction. What are the contest results?