

Mathematics and Statistics Awareness Month 2018

Middle School Level (lower level grades) Problems

AA1. A friend of mine has a few ducks and goats in his garden. When I visited him last, I counted a total of 18 animal heads and 46 animal legs. How many of each animal does my friend have?

AA2. There are 28 monkeys living on an island. Some of them are jumping on trees, a few of them are playing on ropes, and the others are resting on the grass. There are a total of 19 monkeys on the trees and on the ropes. I counted a total of 17 of them on the trees and in the grass. How many monkeys are there on the trees, how many on the ropes and how many in the grass?

AA3. In a class 14 students collect stamps, 16 collect postcards, 5 students collect both, and 4 students collect none of them. How many students are there in this class?

AA4. The circus clown climbs up the 6-step-ladder step-by-step, or sometimes he skips a step. How many different ways can he get up to the top of the ladder?

AA5. If 5 elephants eat 10 stacks of hay in 6 days, then:

- a) How many stacks of hay do 8 elephants eat in 12 days;
- b) How long does it take 3 elephants to eat 60 stacks of hay;
- c) How many elephants can eat 18 stacks of hay in 9 days?

AA6. There were 36 peanuts and 24 pecans on a plate. How many people could eat them all if everybody ate the same number of peanuts and also an equal number of pecans?

AA7. How many 3-digit numbers have the property that the sum of the three digits is 6?

AA8. Pete and Joe are playing chess. The winner of a game gets 5 points, the loser does not get any points, and each player gets 2 points for a tie. They played 13 games and received 60 points together. Joe received three times as many points for the games he won than for his tie games. How many times did Pete win?

AA9. Sometimes, when you multiply a 2-digit number by 3, you get a 3-digit number. How many of these 2-digit numbers are there? Which of these 2-digit numbers is the smallest, and which one is the greatest?

AA10. There are three bags of balls containing identical colors: one has red, the other has green, and the third bag has blue balls. If you take out 75 balls from one of the bags, 46 from the other, and 52 from the third, there is an equal number of balls in each bag. How many balls were in each bag at the beginning if we started with a total of 533 balls?