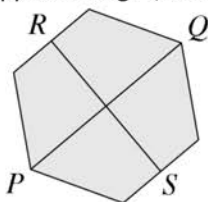


CCMS Math Challenge - Easy Problem Set 1 - October 1, 2015

Middle and high school students are invited to solve these math problems. Answers will be published on the website at the end of each month. A **more difficult** set is also available, that will be graded.

Details at: ccms.claremont.edu/mc

1. In a Frisbee competition, 16 teams participate in playoffs, i.e. only the winner of each game continues to play in the next round. The tournament ends after the ultimate winner is determined. How many games were played in this tournament?
2. Each of the numbers 144 and 220 gives a remainder of 11 when divided by the same positive integer N . What is the value of N ?
3. There are four clocks in Billy's room. Each clock is either slow or fast. One clock is wrong by 2 minutes, another clock is wrong by 3 minutes, a third clock is wrong by 4 minutes, and the fourth clock is wrong by 5 minutes. One day Billy wanted to know the exact time by his clocks, which read 6 minutes to 3, 3 minutes to 3, 2 minutes past 3, and 3 minutes past 3. What was the exact time then?
4. Yurko saw a tractor slowly pulling a long pipe down the road. Yurko walked along beside the pipe in the same direction as the tractor, and counted 140 paces to get from one end to the other. He then turned around and walked back to the other end, taking only 20 paces. The tractor and Yurko kept to a uniform speed, and Yurko's paces were all 1 m long. How long was the pipe?
5. Ivana wants to write down five consecutive positive integers with the property that three of them have the same sum as the other two. How many different sets of five numbers can she write down?
6. The points P and Q are opposite vertices of a regular hexagon and the points P and S are midpoints of opposite edges, as shown.



The area of the hexagon is 60 cm^2 . What is the product of the lengths of PQ and RS ?