

Green Level



- (5 credits)** Potter and Malfoy travel in neighbouring coaches of the Hogwarts Express. Potter is in the fifth coach from the front of the Express, and Malfoy is in the seventh coach from the rear of the Express. How many coaches does the Express have? Find all possible answers.
- (5 credits)** At the mutant school, all students sit in twos at a table. 60 percent of boys have a boy as a table mate, and 20 percent of girls have a girl as a table mate. How many times greater is the number of boys in this school than the number of girls?
- (7 credits)** Captain Jack Sparrow, Elizabeth Swann and Will Turner divide the treasure of Davy Jones among themselves. First Jack gave each of his friends one quarter of his coins and half a coin. Then Elizabeth gave each of her friends one quarter of her coins and half a coin. Then Will did the same. As a result, everyone got 30 coins. How many coins did each of them have originally?
- (8 credits)** 20 students of the Police Academy play 'Civilians and Terrorists'. In the first round, each of them got a badge 'a civilian' or 'a terrorist'. Civilians always speak the truth and terrorists always lie. In the second round, the students got the same set of 20 badges, upon which 6 students told that their roles changed and other 14 students told that they have the same roles as in the first round. What is the possible number of the badges marked 'a civilian'? Find all possible answers.
- (10 credits)** Each face of a cube was split into four identical squares, and then those squares were painted several colours so that all squares having a common side appeared to be painted different colours. What is the largest possible number of squares of the same color?
- (10 credits)** Three hackers want to crack a website. The second and the third hackers can do it together 2 times faster than the first one, and the first and the third hackers can do it together 3 times faster than the second one. How many times faster can the first and the second hackers crack the website than the third one?
- (12 credits)** Several knights sit at the round table. Each of them has some daggers and some arrows. If two knights are able to equally share their daggers and arrows (each kind of weapon is to be shared separately), they sit next to each other. What is the maximum number of the knights sitting at the table?
- (13 credits)** A boy cut out a square with a side of 12 cm and a triangle from a page of his father's passport. He managed to cover at least three quarters of the area of the triangle with the square, but only half of the square could be covered with the triangle. What is the area of the triangle?
- (15 credits)** 100 students took part in the contest where four problems were posed to them. The first problem was solved by 90 contestants, the second one was solved by 80 contestants, the third one was solved by 70 contestants, and the fourth one was solved by 60 contestants. Nobody solved all four problems. All contestants who solved the third and the fourth problems were announced as winners. How many winners were announced?
- (15 credits)** What is the largest number of integers that can be arranged in a row so that the sum of any 49 consecutive numbers is even, and the sum of any 50 consecutive numbers is odd?