



Diversions

Sunday, 15 Aug 2010

Welcome to IOI 2010! Each day in the newsletter we will provide you with two puzzles. The first puzzle will use a diagram. The second puzzle will be a word problem. The puzzles will differ in style and difficulty. Some are easiest to solve simply by thinking, others you can solve with pen and paper or programmatically. Solve them while you wait for a meal, sit on on the bus or are spending time with your friends. Solutions for today's puzzle will appear in tomorrow's newsletter.

KenKen

This puzzle is similar to Sudoku. Each row and column must contain the digits 1 to 6 exactly once. The bold-outlined regions have a number and a mathematical operator, where the digits in the region must equal the number using the operator. Digits can be repeated in the bolded boxes as long as they are not repeated in a row or column. A 4x4 example is given below.

$\times 8$ 4	$+ 13$ 1	$\div 3$ 3	$\div 2$ 2
2	3	1	4
1	2	$\times 24$ 4	3
3	4	2	1

$\times 10$	$\times 192$		$\times 30$	$- 2$	
					$\times 24$
$\times 15$		$+ 3$	$\div 2$		
$\times 108$				$\times 20$	
$\times 4$			$\times 4$		$\times 30$
	$\times 60$				

Word Problem

Suppose there are 12 coins. All of the coins weigh the same except one. Using a balance scale, what is the smallest number of weighings you can make that will

- find the one coin that has a different weight, and
- determine whether that coin weighs more or less than the other coins?

Quizmaster: Alex Clark.

Quizmaster Assistants: Reena Bhagani , Andrea Blezy, Rachael Verbruggen



The CENTRE for EDUCATION in MATHEMATICS and COMPUTING (CEMC)

The CEMC is Canada's largest and most recognized outreach organization for promoting and supporting mathematics and computer science among Canada's youth.

The Centre began running mathematics contests in the 1960s as the Canadian Mathematics Competition. It was, and still is, housed within the University of Waterloo's Faculty of Mathematics. It took its current form in 1995.

Approximately 200,000 students from across the country, and indeed across the world, participate in one of CEMC's 10 contests every year. The contests challenge mathematics and computer science students in Grades 7 and 8, right up to the very best young mathematicians and computer scientists in the country.

In 2009, CEMC staff visited 130 schools holding face-to-face workshops on problem solving in mathematics and computing. These school visits bring CEMC into direct and frequent contact with students and teachers. They also provide all of the participants with an opportunity to enjoy themselves and become better problem solvers. In addition, the CEMC hosts workshops and seminars for students and teachers in elementary and secondary schools across Canada and around the globe.

There is an expansive set of web resources and publications available through the CEMC. These resources, many of which are free, provide curricular and enrichment support to students, teachers and parents.

September 2010 will mark the inauguration of a new Master's program offered through the CEMC and the Faculty of Mathematics. The Master of Mathematics for Teachers makes increased mathematical and pedagogical expertise available to teachers from a wide range of backgrounds in a wide range of countries.

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