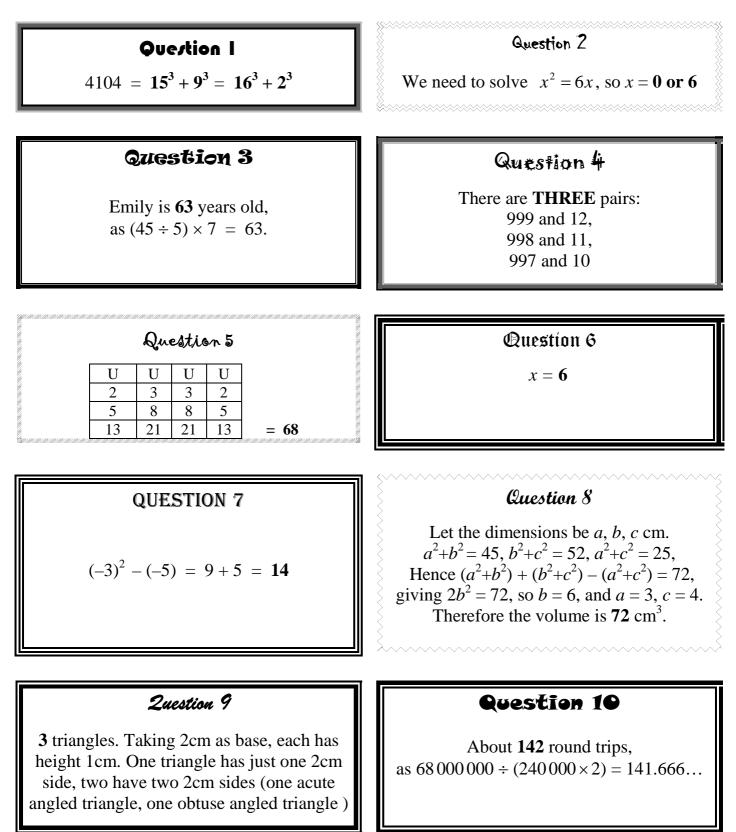
Welcome to a 2008 UKMT TMC Regional Final

Here are some warm-up questions to get your brains working. Discuss them with each other and with your teacher. **NO CALCULATORS!**

Quertion I Find two different ways of expressing 4104 as the sum of two cubes.	Question 2 Which numbers are increased by 500% when they are squared?
Question 3 Emily does not want to admit her age. She says ''I'm 45 years old, if you don't count Saturdays or Sundays''. What is Emily's true age?	Question 4 The difference between a three-digit number and a two-digit number is 987. How many pairs of numbers have this property?
	Question 6
Question 5UUUUUKKKKKMMMMMMTTTTTCan you find the 68 ways to spell out 'UKMT' through this grid? You may move across an edge or through a corner.	The diagram shows part of a magic square (in which the total for each row, column and diagonal is the same). What is the value of x ?
QUESTION 7	Question 8
If $a * b$ means 'square a and subtract b ', what is the value of $(-3) * (-5)$?	The diagonals of the faces of a cuboid are, in cm, $\sqrt{45}$, $\sqrt{52}$ and 5. What is its volume?
i	1
Question 9 How many different shapes of isosceles triangles have at least one side of length 2cm and an area of 1cm ² ?	Question 10 The annual distance travelled by Tesco's lorries is about 68 million miles, equivalent to how many round trips to the moon? (Earth to Moon $\approx 2.4 \times 10^5$ miles)



Starter Questions ~ ANSWERS