

## NCC '08 Sample Questions<sup>©</sup>

How the parts work is described in detail on the NCC information sheet. Basically, grade 3's and 4's are responsible for parts A, B, and C; grade 5's and 6's are responsible for parts B, C, and D; grade 7's, 8's, and 9's are responsible for parts C, D, and E.

### **Sample Part A Question**

I am 5 years younger than my brother, who is half as old as my mother. If my mother is 40 years old, how old am I?

Answer: \_\_\_\_\_

### **Sample Part B Question**

Grand River Chinese School has 100 students. If half the students moved to Chicago, and then 20% of the remaining students moved to New York, how many students would remain?

Answer: \_\_\_\_\_

### **Sample Part C Question**

How many different positive three-digit numbers are multiples of 12?

Answer: \_\_\_\_\_

### **Sample Part D Question**

How many different ways are there to choose 3 different numbers from 1, 2, ..., 9, such that one number is the average of the other 2? (For example, we can choose 1, 4, and 7 as one possibility.)

Answer: \_\_\_\_\_

### **Sample Part E Question**

How many different (non-congruent) isosceles triangles are there with whole number side lengths and perimeter 200?

Answer: \_\_\_\_\_

Answers: 15, 40, 75, 16, 49