

**2A** Time: 4 minutes

If two different natural numbers have the same digits but in reverse order, each number is called the *palimage* of the other. For example, 738 and 837 are *palimages* of each other; so are 1234 and 4321. What two different numbers between 40 and 60 are palimages of each other?

**2B** Time: 4 minutes

A cricket chirps 6 times in 8 seconds. At that rate, how many times does the cricket chirp in 2 minutes?

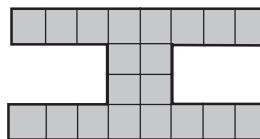
**2C** Time: 6 minutes

The odd numbers from 1 through 17 are placed in the magic square so that the sum of the numbers in each row, column and diagonal are equal. What number goes in the square marked "X"?

	1	
5		13
X		3

**2D** Time: 5 minutes

Each small region in the figure shown is a square. The area of the entire figure is 320 sq cm. What is the number of cm in the perimeter of the entire figure?

**2E** Time: 6 minutes

The pages of a book are numbered consecutively, beginning with 1. The digit 7 is printed 25 times in numbering the pages. What is the largest number of pages the book can have?

Please fold over on line. Write answers on back.

Division

**E**

*Mathematical Olympiads*

DECEMBER 13, 2005

for Elementary and Middle Schools



Contest

**2**

**2A**

*Student Name and Answer*

\_\_\_\_\_ and \_\_\_\_\_

**2B**

*Student Name and Answer*

**times**

**2C**

*Student Name and Answer*

**2D**

*Student Name and Answer*

**cm**

**2E**

*Student Name and Answer*

**pages**

*Please fold over on line. Write answers in these boxes.*