

SCHOOL: .....

## Eastern Area Mathematical Challenge 2010

### Round 4 Multi-Choice (30 marks)

Circle your answer.

1. The number 2010 is the product of exactly three distinct primes numbers ( $2010 = 2 \times 5 \times 201$ ).

Which of the following numbers is also the product of exactly three distinct primes?

A 45      B 60      C 91      D 105      E 330

2. How many of the numbers  $3\sqrt{11}$      $4\sqrt{7}$      $5\sqrt{5}$      $6\sqrt{3}$      $7\sqrt{2}$  are greater than 10?

A 1      B 2      C 3      D 4      E 5

3. Which of the following is the best estimate for the number of seconds that have elapsed since the start of the year 2000?

A  $3 \times 10^4$     B  $3 \times 10^5$     C  $3 \times 10^6$     D  $3 \times 10^7$     E  $3 \times 10^8$

4. In how many different ways can seven different numbers be chosen from the numbers 1 to 9 inclusive so that the seven numbers have a total which is a multiple of 3?

A fewer than 10    B 10    C 11    D 12    E more than 12

5. A cafe sells cakes at 39p each and buns at 23p each. For her party, Helen spends exactly £5.12 on an assortment of cakes and buns. How many items in total did she buy?

A 15      B 16      C 17      D 18      E 19

6. The number  $3^4 \times 4^5 \times 5^6$  is written out in full. How many zeros are there at the end of the number?

A none      B 4      C 5      D 6      E more than 6