APSMO

2015 : DIVISION J

WEDNESDAY 20 MAY 15

MATHS OLYMPIAD

OLYMPIAD 1

Total Time Allowed: ***25 Minutes***

1A. Time: 3 minutes

What is the value of 100 - 40 + 200 –30 + 300 –20 + 400 -10 ?

1B. Time: 4 minutes

What is the greatest number of 2 × 2 squares that will fit on a 9 × 9 square without any overlap, without going beyond the 9 × 9 square and without breaking up any of the 2 × 2 squares?

1C. Time: 5 minutes

Given the three equations at the right, each shape represents a whole number.

What does □ + △ + ○ equal?

□ + □ + □ + △ = 15

△ + △ + △ + ○ = 16

○ + ○ + ○ + □ = 25

1D. Time: 6 minutes

A group of children is trying to share a pile of stickers. If every child gets two stickers, there will be 7 stickers left over. If two children do not get any stickers, then each of the remaining children will get exactly 3 stickers.

How many children are in the group?

1E. Time: 7 minutes

Each of the counting numbers from 1 to 10 occurs only once in a collection of 5 cards. One number appears on each side of each card with and even number on one side and an odd number on the opposite side. Four of the cards are made visible and the sum of the face up numbers on the visible cards is 29.

What is the greatest possible sum for the face down numbers on those four visible cards?

← *Please fold over on the line and write your answers on the back*