

General Instructions

- (i) This question paper contains 11 questions. All questions are compulsory.
- (ii) It comprises 6 single-correct multiple-choice questions and 3 numerical / integer-type questions.
- (iii) Attempt every question; detailed solutions are provided in the companion solutions booklet.
- (iv) For numerical questions, report the answer rounded exactly as asked.

1.

Seven children, Aarav, Bina, Chirag, Diya, Eshan, Farhan, and Gaurav, are sitting in a circle facing inside (not necessarily in the same order) and playing a game of 'Passing the Buck'.

The game is played over 10 rounds. In each round, the child holding the Buck must pass it directly to a child sitting in one of the following positions:

- Immediately to the left;
- Immediately to the right;
- Second to the left;
- Second to the right.

The game starts with Bina passing the Buck and ends with Chirag receiving the Buck. The table below provides some information about the pass types and the child receiving the Buck. Some information is missing and labelled as '?'.v

1.1. Who is sitting immediately to the right of Bina?

- (A) Eshan
 - (B) Chirag
 - (C) Aarav
 - (D) Farhan
-

1.2. Who is sitting third to the left of Eshan?

- (A) Gaurav
 - (B) Divya
 - (C) Aarav
 - (D) Chirag
-

1.3. For which of the following pass types can the total number of occurrences be uniquely determined?

- (A) Immediately to the left
 - (B) Second to the left
 - (C) Immediately to the right
 - (D) Second to the right
-

1.4. For which of the following children is it possible to determine how many times they received the Buck?

- (A) Farhan
 - (B) Gaurav
 - (C) Eshan
 - (D) Bina
-

2.

Aurevia, Brelosia, Cyrenia and Zerathania are four countries with their currencies being Aurels, Brins, Crowns, and Zentars, respectively. The currencies have different exchange values. Crown's currency exchange rate with Zentars = 0.5, i.e., 1 Crown is worth 0.5 Zentars.

Three travelers, Jano, Kira, and Lian set out from Zerathania visiting exactly two of the countries. Each country is visited by exactly two travelers. Each traveler has a unique Flight Cost, which represents the total cost of airfare in traveling to both the countries and back to Zerathania.

The Flight Cost of Jano was 4000 Zentars, while that of the other two travelers were 5000 and 6000 Zentars, not necessarily in that order. When visiting a country, a traveler spent either 1000, 2000 or 3000 in the country's local currency. Each traveler had different spends (in the country's local currency) in the two countries he/she visited. Across all the visits, there were exactly two spends of 1000 and exactly one spend of 3000 (in the country's local currency).

The total "Travel Cost" for a traveler is the sum of his/her Flight Cost and the money spent in the countries visited.

The citizens of the four countries with knowledge of these travels made a few observations, with spends measured in their respective local currencies:

- Aurevia citizen: Jano and Kira visited our country, and their Travel Costs were 3500 and 8000, respectively.
- Brelosia citizen: Kira and Lian visited our country, spending 2000 and 3000, respectively. Kira's Travel Cost was 4000.
- Cyrenia citizen: Lian visited our country and her Travel Cost was 36000.

2.1. What is the sum of Travel Costs for all travelers in Zentars?

2.2. How many Zentars did Lian spend in the two countries he visited?

2.3. What was Jano's total spend in the two countries he visited, in Aurels?

2.4. One Brin is equivalent to how many Crowns?

- (A) 0.5
- (B) 4
- (C) 0.125
- (D) 8

2.5. Which of the following statements is NOT true about money spent in the local currency?

- (A) Lian spent 2000 in Cyrenia
- (B) Kira spent 1000 in Aurevia
- (C) Jano spent 2000 in Aurevia
- (D) Jano spent 2000 in Cyrenia