UCAT

Decision Making Session 1

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Class Questions

Question 1) Orchestra Politics

Tracy, Simon, Paul, William and Victoria are five musicians, who all play different instruments: violin, oboe, percussion, flute and clarinet.

Paul, Victoria, Simon and the flute player live in the same town. The clarinet player likes to have dinner with Paul, Simon and Tracy after concerts but cannot stand the presence of the oboe player.

Simon and Victoria are friends of the violinist, but William and the oboe player don't like each other.

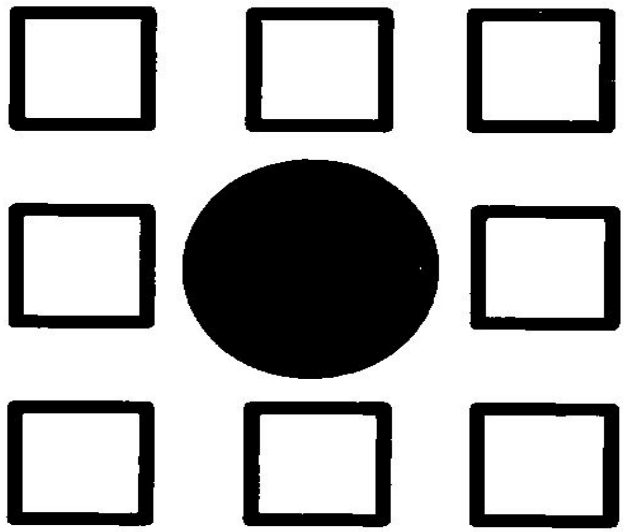
Which of the following must be true?

A. William plays the flute
B. Simon plays percussion
C. Tracy plays the violin
D. Victoria plays the clarinet

Class Questions

Question 2) Gardener's Time

A gardener installs eight boxes of flowers around a tree, in a square configuration (see diagram). In each box he places a different number of flowers. The number of flowers in a box ranges from 1 to 8, and no two boxes contain the same number of flowers. The box in the top-left corner contains one single flower. Each side of the square contains 14 flowers.



How many flowers are there in the box at the bottom right corner?

A. 2 **B.** 3 **C.** 4 **D.** 5

Class Questions

Question 3) Fitness Crowd

Jenny, Bob, Marc and Peter each practise a different activity from this list: swimming, judo, dance, and rugby.

- Jenny and Peter enjoy watching their friend practise judo.
- The rugby player and the dancer went to Peter's for dinner.
- Jenny and Marc don't live in the same town as the dancer.

Which one plays rugby?

A. Jenny
B. Bob
C. Marc
D. Peter

Class Questions

Question 4) Card Game

Allan, Bob, Charles, David, Elvis and Frank play cards in three teams of two people.

- Allan plays with Elvis or Frank.
- If Allan is with Frank, then David is with Elvis.
- If Bob is with Charles or David, then Allan is not with Elvis.
- If David is with Charles, then Bob is not with Frank.

Which of the following must be true?

A. Allan plays with Elvis
B. Bob plays with Frank
C. David plays with Elvis
D. David plays with Charles

Class Questions

Question 5) Round Table

Last night, Claire and her husband invited their neighbours (two male/female couples) for dinner around a round dinner table.

- David sat on the left of the woman who sat on the left of the man who sat on the left of Barbara.
- Paula sat on the left of the man who sat on the left of the woman who sat on the left of the man who sat on the left of the woman who sat on the left of Claire's husband.
- Ahmed sat on the left of the woman who sat on Robert's left.
- Claire did not sit next to her husband.

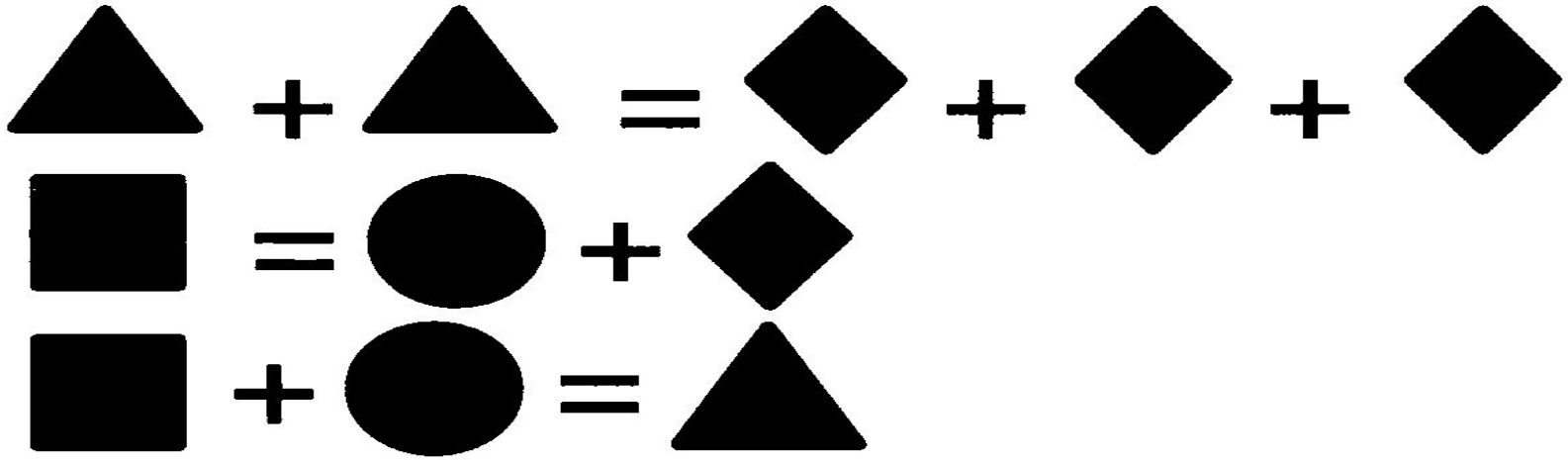
What is the name of Claire's husband?

A. Ahmed
B. David
C. Robert
D. Cannot be determined using the information provided

Class Questions

Question 6) Adding Up

Consider the following equations:



How many circles is one square equal to?

A. 2 B. 3 C. 4 D. 5

Class Questions

Question 7) Teachers

Mrs Amin, Mrs Begum, Mrs Cook and Mrs Debono teach at the same school the following subjects: maths, history and chemistry.

Each teacher teaches only two different subjects:

- Two teachers, Alisha and Mrs Debono, teach history.
- There are two teachers for chemistry and only one for maths.
- Three teachers teach English. Debbie is not one of them.
- Carole teaches chemistry.
- Mrs Amin does not share a subject with Betty or Mrs Cook.

What is Alisha's surname?

A. Amin **B.** Begum **C.** Cook **D.** Debono

Class Questions

Question 8) Disorientation

From my house I can drive to four different supermarkets: A, B, C and D. Distances are as follows:

- Home to A: 3 miles
- Home to B: 5 miles
- Home to C: 6 miles
- Home to D: 8 miles.
- B to A: 2 miles
- B to C: 11 miles

Assuming that any road linking two points is straight, which of the following must be true?

A. A and D are five miles apart.
B. The road from Home to B passes in front of C.
C. The road from Home to B passes in front of A.
D. B could be as little as 2 miles away from D.

Class Questions

Question 9) Shop Samples

A local shop owner has decided to hand out free samples of its food to 500 people who live in the area. He offers each adult six food samples and each child four samples.

If only half of the adults and three quarters of the children accept the samples, how many samples will he have given in total?

A. Can't be calculated without being given either the number of adults or the number of children who entered the shop.
B. 1500
C. 2500
D. 3000

Class Questions

Question 10) Siblings

Boys Andrew, Elliott and Fred and girls Belinda, Carol and Davina are six siblings born in six successive years, albeit in a different order.

Andrew and Elliott were born four years apart
Fred is two years older than Andrew
The three girls were born in alphabetical order of their first name.

Which of the following cannot be concluded?

A. The sex of a newborn was always the opposite of sex of the previous year's newborn.
B. Andrew is younger than Carol.
C. Belinda is younger than Elliott.
D. Carol is younger than Elliott.

Class Questions

Question 11) Cosmopolitan Travellers

In a train travelling from London to Leeds, all travellers are either tourists, students or doctors. All travellers are also either German, Japanese or British.

Between London and Leeds, the train stops twice.

- At the first stop, only the tourists who are not British leave the train.
- At the second stop, only the Germans who are not students, the British doctors and the Japanese doctors leave the train.

Which of the following must be incorrect?

A. None of the doctors reach Leeds.
B. All students reach Leeds.
C. Out of all tourists, only the British ones reach Leeds.
D. Out of all Japanese travellers, only the tourists reach Leeds.

Class Questions

Question 12) Three Daughters

Ben, who has three daughters, is chatting with his neighbour Paul. Paul asks how old Ben's daughters are. Ben replies the following:

- The product of their ages is 36.
- The sum of their ages is equal to my house number.

Upon hearing this, Paul is still unable to determine the three daughters' ages. Which additional piece of information would help Paul conclusively determine the three daughter's ages.

A. Two of them are twins.
B. Neither of them are twins.
C. The eldest is blonde.
D. All daughters are below the age of 10.

Class Questions

Question 13) Loaded Dice

Dan has two dice, both with six faces. The first die is normal. The second die is loaded so that the number 3 appears twice as often as each other number but the other five outcomes are equally likely.

What is the probability that when Dan throws both dice together he obtains a double 3?

A. 1/18 – The chance of obtaining a double three with two normal dice is 1/6 x 1/6 = 1/36. But because one die has a double probability, the odds are 2/36 = 1/18.

B. 1/18 – The probability of landing a 3 with the loaded die is 2/6, which we must multiply by 1/6 for the normal die.

C. 1/21 – The loaded die has a probability of 2/7 of landing a 3, whilst the other die has a probability of 1/6.

D. 1/36 – The probability is not affected by the loaded die since we are looking at obtaining the same number on both dice.

Class Questions

Question 14) Blind Spot

In a dark room, three blue hats and two green hats sit on a table. Three people, the last of whom is blind, enter the room. Each of the three people takes a hat at random without being able to see what colour it is and places it on its own head. The two hats which have not been drawn are taken out of the room.

The light is switched on and each person is asked to say whether they can guess the colour of the hat they are wearing.

The first person says NO. The second one says NO. The blind man speaks last.

Which of the following must be true?

A. The probability that the blind man's hat is blue is 60%.
B. The blind man is wearing a blue hat.
C. The blind man is wearing a green hat.
D. The probability that the blind man's hat is green is 20%.

Answerkey

Question Name	Question Number	Answers
Orchestra Politics	1	B
Gardener's Time	2	C
Fitness Crowd	3	A
Card Game	4	C
Round Table	5	C
Adding Up	6	D
Teachers	7	C
Disorientation	8	C
Shop Samples	9	B
Siblings	10	C
Cosmopolitan Travellers	11	D
Three Daughters	12	C
Loaded Dice	13	C
Blind Spot	14	B

Home Assignments

Book	Questions
UCAT 1250	36, 38, 44, 48, 50
Kaplan	7 to 10
Mastering UCAT	4,5,6, 9

Thank you