

Game 29 – Angelica’s Birthday

For her birthday, Angelica receives exactly four presents, which she will open one at a time. The presents are a gift certificate, a hat, show tickets and a portrait. Each is from a different one of Angelica’s friends—Juliette, Margot, Naveen and Tania. The following conditions apply:

Margot's present is not opened first.

Juliette's present is opened immediately after the show tickets.

The hat is opened before the gift certificate.

The portrait is not the last present to be opened.

- Which one of the following could be a complete and accurate list of the friends' presents in the order Angelica opens them?
 - Tania: the portrait; Juliette: the hat; Naveen: the gift certificate; Margot: the show tickets
 - Margot: the hat; Naveen: the show tickets; Juliette: the portrait; Tania: the gift certificate
 - Naveen: the show tickets; Juliette: the hat; Margot: the portrait; Tania: the gift certificate
 - Tania: the show tickets; Juliette: the gift certificate; Margot: the portrait; Naveen: the hat
 - Naveen: the hat; Margot: the show tickets; Juliette: the gift certificate; Tania: the portrait
- If Margot gives Angelica the hat, which one of the following could be true?
 - Tania’s present is opened second.
 - Juliette gives Angelica the portrait.
 - Angelica opens the hat first.
 - Angelica opens the portrait third.
 - Angelica opens Naveen's present second.

- Which one of the following could be true?
 - Angelica opens the show tickets fourth.
 - Angelica opens the hat fourth.
 - Angelica opens Tania's present third.
 - Angelica opens Juliette's present first.
 - Angelica opens the gift certificate first.
- If the show tickets are opened immediately before the gift certificate, which one of the following could be true?
 - Tania gives Angelica the hat.
 - Juliette gives Angelica the hat.
 - Juliette gives Angelica the portrait.
 - Margot's present is opened before the portrait.
 - Naveen's present is opened after the show tickets.
- Which one of the following CANNOT be true?
 - Neither Naveen nor Tania gives Angelica the hat.
 - Neither Juliette nor Margot gives Angelica the portrait.
 - The portrait is opened immediately after Juliette's present.
 - Angelica opens a portrait from Tania second.
 - Angelica opens a gift certificate from Margot third.
- Suppose the condition that Juliette's present is opened after the show tickets is suspended and replaced with the condition that Juliette's present is opened immediately before the gift certificate and immediately after the hat. If all other conditions hold, then regardless of from whom each is from, how many different orders are there in which Angelica could open the presents?

- 1
- 2
- 3
- 4
- 5

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1. C
2. B
3. C
4. A
5. E
6. C

This is a game of both elements and qualities. On games like this, often the order will be based on both a quality and the element, and it can be useful to find a way to symbolize both.

Question 1 is a testing of the rules, and all of the incorrect choices directly break a rule. On Question 2, you can deduce that because Juliette's present immediately follows the tickets and because Margot's gift must be followed by the gift certificate, Margot must give the hat third, and Juliette must give the portrait second, or alternatively, Margot must give the hat second with Juliette giving the gift certificate last.

Question 3 is a matter of determining that four of the answers break a rule (namely the hat and gift certificate rule, and the Juliette rule). On Question 4, you can deduce that, because of the hat and gift certificate rule as well as the Juliette and show tickets rule, Juliette must be fourth and must give Margot the gift certificate—the portrait cannot be last, and the hat must precede the tickets. This excludes the four incorrect answers.

On Question 5, if Angelica opens a gift certificate from Margot third, Juliette's present will have to be second and have to be the hat, since Juliette's present follows the show tickets. This places the portrait in last and violates the rules.

Finally, Question 6 is C. You can deduce that the hat, Juliette's present, and gift certificate block must be first, second and third, or second, third and fourth. These leads you two three different possibilities: two if the hat is second (since either the show tickets or the portrait can be first) and one if the hat is first (since the portrait cannot be last).