Simple Data Calculations

Alice wants to buy 12 whole cakes. There are 4 shops that sell the product she wants. The shops, the prices, and special offers are shown in the following table:

Shops	Standard price	Special offer
Chesire's Bakeshop	$8	Buy 1 get 1 half price
The Hatter's Bakery	$9	Buy 3 get 1 free
Wondercakes	$5	No special offer
Caterpillar's Kitchen	$12	Half off the final price

Alice wants to buy all her cakes from the same shop and to spend as little as possible.

Which shop should Alice buy all her cakes from?

A. Cheshire's Bakeshop
B. The Hatter's Bakery
C. Wondercakes
D. Caterpillar's Kitchen

Ans : C

Below is a step-by-step calculation for each of the shops:

Price of 12 cakes from Chesire's Bakeshop:
The special offer means that in a single transaction, Alice can get two cakes for the price of one and a half. The first cake costs $8. Since one-half of $8 is $4, $4 will be the price of the second cake.

$8 + $4 = $12 for two cakes in one transaction.

Since Alice wants to buy 12 cakes, she will have to repeat the process 6 times.

2 (cakes) * 6 (transactions) = 12 cakes

Because it will cost $12 per transaction, 12 cakes at Chesire's Bakeshop will cost Alice $72.

$12 * 6 (transactions) = $72.

Price of 12 cakes from The Hatter's Bakery:

The special offer means that Alice gets a total of 4 cakes for the price of only three.

>   3 (cakes) * $9 = $27 for 4 cakes in one transaction.

Since she needs 12 cakes in total, she will have to repeat the process three times.

>   4 (cakes) * 3 (transactions) = 12 cakes.

Since it costs Alice $27 dollars for each transaction, 12 cakes at The Hatter's Bakery will cost her $81.

> $27 * 3 (transactions) = $81. .

Price of 12 cakes from Wondercakes:

Because there is no special offer, Alice would only need to pay the standard price of $5 for all 12 cakes.
>   12 * $5 = $60.
Therefore, it will cost Alice $60 dollars to buy 12 cakes from Wondercakes.

Price of 12 cakes from Caterpillar's Kitchen:
The special offer means that the final price of 12 cakes at the standard price of $12 will be subtracted by 50% or one-half. The difference will be the actual cost Alice will pay for 12 cakes.

>   12 (cakes) * $12 = $144.

Because of the special offer, Alice will only need to pay half of the final price of $144.

> $144 ÷ 2 = $72.

Therefore, it will cost Alice $72 to buy 12 cakes at Caterpillar's Kitchen.

Comparing the prices from all the shops, Wondercakes will cost Alice the least amount of money.

Therefore, C is the correct answer.


Dialogue Flaws: Fallacy Detection

Alyssa was in the comic bookstore looking for a gift for her friend. She noticed that most of the people inside the bookstore wore glasses.

Alyssa: "People who read comic books are more likely to have vision problems."
Which of the following sentences shows the mistake Alyssa has made?

A. Based on her single observation, Alyssa reached a broad generalisation about all persons who visit the comic book store.
B. Alyssa believes that taking a given course of action will always result in a series of subsequent events.

C. Alyssa drew connections between two different concepts.
D. Alyssa does not visit the comic book store that much.
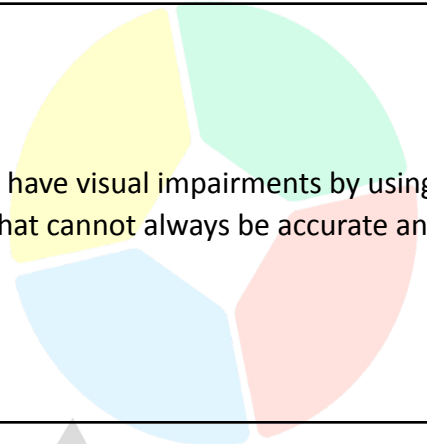
Ans: Alyssa incorrectly concludes that people who read comic books have visual impairments by using her single, personal observation as the main basis. This is a weak claim that cannot always be accurate and true.

Option A is the correct answer.

CODES: Decoding Artificial Language, Letter and Symbol Series

Aaron has eight six-sided bricks. Each brick has a different letter on each face.

The letters on each brick are:

Brick 1: G M C R U I
Brick 2: E L R O G L
Brick 3: I A V O N K
Brick 4: S H R P A W
Brick 5: M N O V C T

Which one of the following words can Aaron not spell out with his bricks?

A. GAMES
B. SLANG
C. SCRAP
D. MOVES

Ans: Three of the choices can be written with bricks as follows:

GAMES - 1G 3A 5M 2E 4S
SLANG - 4S 2L 3A 5N 1G
MOVES - 1M 5O 3V 2E 4S

SCRAP is the only word that cannot be spelt with the bricks because it would require the fourth brick to be used twice for the letters S and P.

Therefore, **C** is the correct answer.

Video games are entertaining and have numerous advantages, including the enhancement of manual dexterity. Manual dexterity is the competent and coordinated use of one's hands to grab and manipulate items and execute small, precise movements. A person's manual dexterity would be at its optimum after eight hours of video game play.

Which of the following statements, if true, best weakens the above argument?

A. Playing video games for long hours can affect a person's eyesight.
B. Prolonged playing causes Carpal tunnel syndrome-numbness in a person's hands.
C. There are other ways to improve a person's body coordination.
D. Spending a lot of time playing video games lessens the time allotted for studying.

Ans: The passage states that playing video games for 8 hours can improve a person's manual dexterity. The statement in option B weakens it best as it contradicts the idea of the main argument by saying that playing for long periods of time can cause Carpal Tunnel Syndrome. It is an illness that causes numbness in a person's hand. So, if a person develops Carpal Tunnel Syndrome, it is impossible to improve his or her manual dexterity. The statements in the other options are all incorrect. The statement in option A focuses on the effect of playing video games on a person's eyesight. The statement in option C contradicts it by focusing on the other ways to improve the body's coordination. The statement in option D focuses on the time that could have been spent on studying instead of playing.

Option B is the correct answer.

Logical Statements

Nat and Sue are Casio engineers. Casio engineers are the most intelligent engineers. They are noble and patient workers. Nat and Sue drink coffee and work during the day.

If the information in the box is true, whose reasoning is correct?

Ashley: "There might be Casio engineers who don't drink coffee, but I'm sure all of them are patient and noble at work."

Ken: "If an engineer works during the day, they must be a Casio engineer."

A. Ashley only
B. Ken only
C. Both Ashley and Ken
D. Neither Ashley and Ken

Ans : Ashley's reasoning is correct because all Casio engineers are identified as patient and noble workers. There was also neither an explicit nor an implicit statement that Nat and Sue represent all Casio engineers. This means we cannot ascertain that all Casio engineers drink coffee. It's a possibility but not a guarantee, hence the use of the word "might". On the other hand, Ken is incorrect because the passage only states that some Casio engineers work during the day. He incorrectly classified all engineers who work during the day as Casio engineers although they could be a different kind of engineer.

Option A is the correct answer.

Relevant Selection

Ivy and Betty both jog several kilometres each day. They each kept track of the distance they covered every day for ten days. Combined, the data from the two individuals are as follows:

Distance covered in kilometres
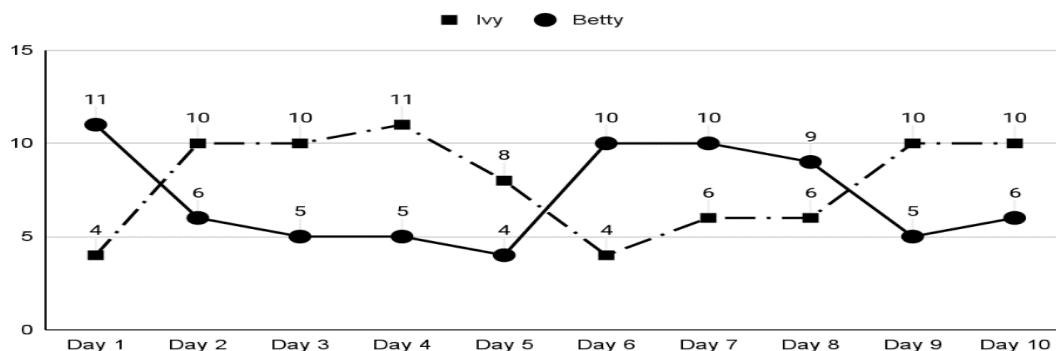
On which day is there the least difference between the distances covered by Ivy and Betty?

    A. Day 8
    B. Day 5
    C. Day 2
    D. Day 10

Ans : To determine which day there was the least difference between the distances they covered, subtract the distance one runner covered from the distance that the other ran on the same day.

For example, on Day 2, Ivy ran for 10 kilometres while Betty ran for 6 kilometres. By subtracting the two, it is found that there is a 4-kilometre difference between their distances. (10 km. - 6 km. = 4 km).

On Day 5: 8 km. - 4 km. = 4 km in difference

On Day 8: 9 km. - 6 km. = 3 km. in difference

On Day 10: 10 km. - 6 km. = 4 km. in difference

Thus, **Day 8** was the day when there was the least difference in the distances run by Ivy and Betty.

Therefore, **A** is the correct answer.

Logic Games

As Ferrari's current sitting Chief Executive Officer, Ben reported in their business meeting that the company had manufactured 225 motor trikes in the last 5 years. Each motor trike consists of 3 wheels to make. For this year alone, Ferrari has already made use of 300 wheels in their factories.

What is the total number of motor trikes produced in the company?

    A. 100
    B. 150
    C. 225
    D. 325

Ans : Last 5 years:

225 motor trikes x 3 wheels each =675 wheels

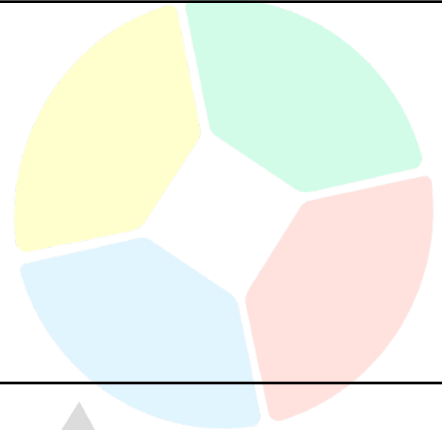**This year:**
300 wheels

Total number of wheels this year and last year:
300 wheels +675 wheels = 975 wheels

Total number of cars:
975 wheels / 3 wheels each = 325 motor trikes

Option D is the correct answer.

Analysing and Evaluating Arguments, Theme Detection

Plants are essential to the health of the planet and all living creatures. Plants absorb carbon dioxide and produce oxygen through their leaves, which humans and other creatures need to breathe, but maintaining them is difficult and time-consuming, particularly for those with full-time jobs. Busy individuals are discouraged from maintaining any kind of plant.

Which of the following statements, if true, best weakens the above argument?

A. People with full-time jobs can still take care of plans as long as they don't forget to water them every day.

B. Plants only need deep watering and not daily watering, which means busy people can still have them.

C. There are a lot of other hobbies which busy working people can do, just not taking care of plants.

D. Plants do not need too much attention and can grow on their own.

Ans : The argument states that busy individuals are not being encouraged to take care of plants since it is difficult and time-consuming. The statement in option B weakens it best by stating a contradicting statement that plants don't need daily watering, instead, they need deep watering since the most important part is for the soil to get soaked in water and so as long as the soil is wet, the plant won't die.

Option B is the correct answer.

Logical Statement

Mr. Foster likes to let his students choose their partners in class activities. Their partners should be who they like. However, no pair of students may work together for more than seven class periods in a row. Adam and Baxter have studied together for seven class periods in a row. Carter and Dennis have worked together for three class periods in a row. Carter does not want to work with Adam.

Who should be assigned to work with Baxter?

    A. Carter
    B. Adam
    C. Dennis
    D. No one

Ans : Baxter should be assigned to study with Carter. Baxter cannot be assigned with Adam, because they have already been together for seven class periods. If Baxter is assigned to work with Dennis, that would leave Adam with Carter, but Carter does not want to work with Adam.

Option A is the correct answer.

SPATIAL REASONING (2D & 3D)

Which figure is a rotation of the given object?

Ans:
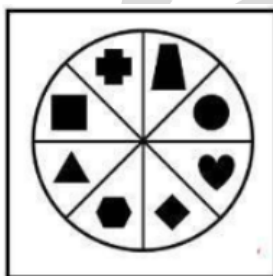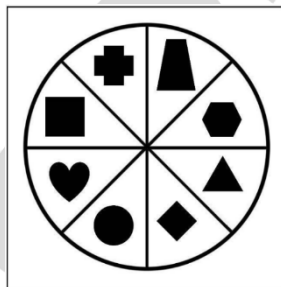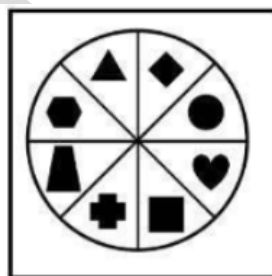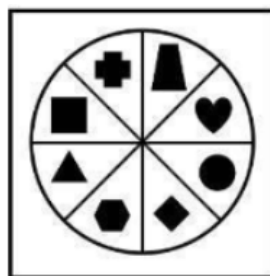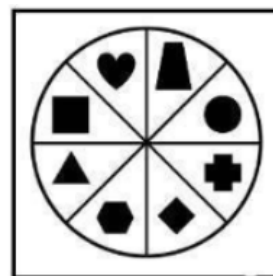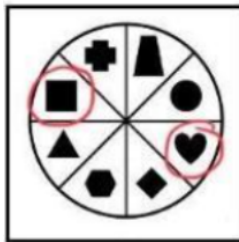
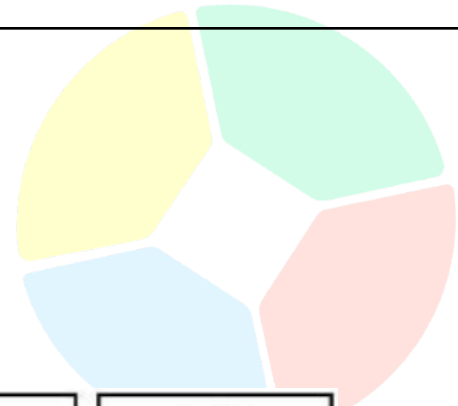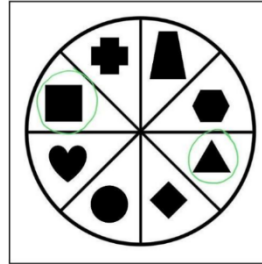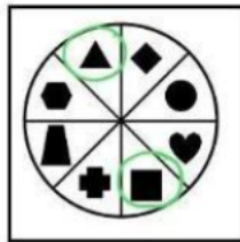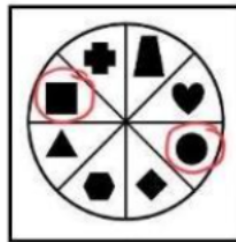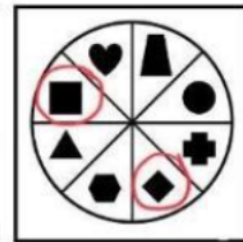1. In this problem, look at how objects or shapes relate to each other. The best shortcut is to look at **opposite figures.**
2. Pick one figure from the pie and look at what's directly opposite to it. In this case, we used the square, and we can see that it is opposite to the triangle.
3. By using the process of elimination, Options A, C, and D do not follow the pattern because their squares are opposite to an object that is not a triangle.

Option B is the correct answer.