LOGICAL DERIVATION

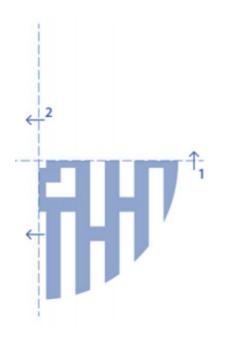
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GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION **DESIGN SENSITIVITY**

NUMERICAL ABILITY

The quadrant shown below is mirrored first on x-axis and then on y-axis. Find the correct complete figure from the given options.



VISUAL REASONING









| A. | O | nti | on | Α |
|----|------------------------|-----|-----|---------------------|
| Л. | $\mathbf{\mathcal{C}}$ | PLI | UII | $\boldsymbol{\neg}$ |

C. Option C

Answer key:

D

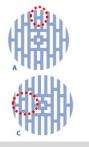


B. Option B

D. Option D

Theory:

The lines inside the red circles are not correct. So Option D is correct







Suggested Reading: Basics of Orthographic projections " For a swift review of the subject, kindly consult the study materials available on the website"

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VISUAL REASONING

LOGICAL DERIVATION

NUMERICAL ABILITY

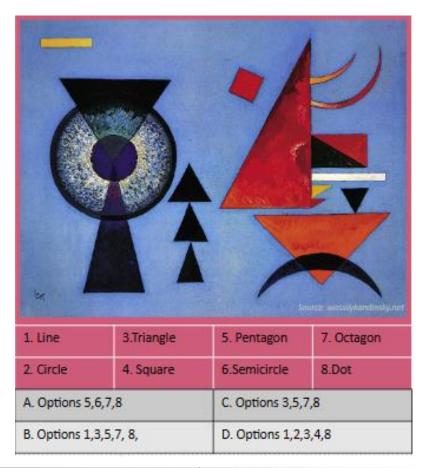
GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING

LANGUAGE INTERPRETATION

DESIGN SENSITIVITY

Identify the elements of design in this composition by the Artist Wassily Kandinsky.



Answer Key:

D. Options 1,2,3,4,8.

Theory:

Elements of Design are

- Point
- Lines
- Shape
- Space
- Colour
- Form
- Texture

Suggested Reading: Principles of design

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VISUAL REASONING LOGICAL DERIVATION NUMERICAL ABILITY

GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

A cyclist covers a distance of 750 m in 2 min 30 sec. What is the speed in km/hr of the cyclist?

A. 18 km/hr B. 9 km/hr

C. 6 km/hr C. 3 km/hr

Answer key: Theory:

A. 18 km/hr

2min 30 sec = 150 sec

Speed = 750/150 m/sec

= 5 m/sec

 \Rightarrow 5 x (3600)/1000 km/hr

 $= 18 \, km / hr$.

Suggested Reading: Speed

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GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

A train travelling with constant speed crosses a 90 m long platform in 12 seconds and a 120 m long platform in 15 seconds. Find the length of the train and its speed.

- A. 30m, 36 km/hr
- C. 30m, 30 km/hr
- Answer key:

A. 30m, 36 km/hr

- B. 24m, 30 km/hr
- D. 24m, 36 km/hr

Theory:

Let the length of the train be x metres.

Then,
$$\frac{(x+90)}{12} = \frac{(x+120)}{15}$$

$$\Rightarrow$$
 15 $(x + 90) = 12 (x + 120)$

$$\Rightarrow 15x + 1350 = 12x + 1440$$

$$\Rightarrow \qquad 3x = 90$$

$$\Rightarrow$$
 Length of the train $x = 30 \text{ m}$

Speed of the train
$$=\frac{(30+90)}{12}$$
 m/sec $= 10$ m/sec

$$= 10 x \frac{18}{5} km/hr = 36 km/hr$$

Length of train = 30 m, speed of train = 36 km/hr.

Suggested Reading: Speed

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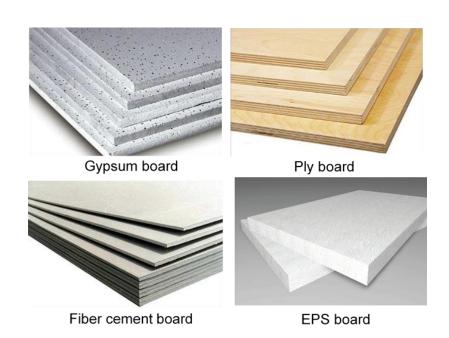


VISUAL REASONING LOGICAL DERIVATION NUMERICAL ABILITY

GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

are made by sticking several thin layers of wood glued together.



| A. Gypsum board | B. Ply board | |
|---------------------------|--|--|
| C. Fiber cement board | D. EPS board | |
| Answer key: B. Ply board | Theory: Plywood is a material manufactured from thin layers or "plies" of wood veneer that are glued together with adjacent layers having their wood grain rotated up to 90 degrees to one another. The most prominent use of plywood is in structural applications. Plywood can naturally withstand a lot of stress and full weather exposure. Structural plywood is best used for beams and hoardings, but it is | |

Suggested Reading: Basics of building construction/Components
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furniture etc.

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commonly used partition works, to make formwork, or a mould for wet concrete, to make furniture, especially cupboards, kitchen cabinets, and office tables, outdoor

4

VISUAL REASONING LOGICAL DERIVATION NUMERICAL ABILITY

GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

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Concrete jungle meets biodiverse rooftop, Singapore's eco-wonder:



Source: Gardens by the Bay Tickets (Singapore Cloud Forest & Flower Dome) - Klook

A. Marina Bay Sands C. Gardens by the Bay

B. Helix Bridge D. Singapore Flyer

Answer key: Theory:

Explanation: The concrete jungle and biodiverse rooftop combination specifically point to Gardens by the Bay, a unique Singaporean landmark that showcases sustainable design and blends nature with urban landscapes..

C) Gardens By The Bay

Suggested Reading: History of Architecture

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VISUAL REASONING LOGICAL DERIVATION NUMERICAL ABILITY

GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

Visual Thinking is

- A. To rapidly change.
- B. When you create a 3D model of your design.
- C. The process for creating and sharing ideas where you use images and sketches instead of words to describe your idea.
- D. When you brainstorm ideas, get feedback, create an initial design, share the design, and iterate.

Answer key:

C. The process for creating and sharing ideas where you use images and sketches instead of words to describe your idea.

Theory:

Visual thinking is a cognitive process in which individuals use visual imagery, such as images, sketches, diagrams, and symbols, to generate, organize, and communicate ideas and information.

Suggested Reading: Design Thinking
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GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

Read each sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. (Ignore the errors of punctuation, if any).

- 1. Make haste
- 2. lest you will miss
- 3. the train.
- 4. No error.

| A. 1 | C. 3 |
|-------------|--|
| B. 2 | D. 4 |
| Answer key: | Theory: |
| D. 4 | The correct option is D. 4 There is no error in the sentence- it is grammatically correct and has proper sentence construction. The sentence means 'hurry or else you will miss the train'. So, the answer here is option D. |

Suggested Reading: Grammar

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DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

Read the passage and answer the question:

O'Connell Street is the main thoroughfare of Dublin City. Although it is not a particularly long street, Dubliners will proudly tell the visitor that it is the widest street in all of Europe. This claim usually meets with protests, especially from French tourists, claiming the Champs Elysees of Paris as Europe's widest street. But the witty Dubliner will not easily relinquish bragging rights and will trump the French visitor with a fine distinction: The Champs Elysees is a boulevard; O'Connell is a street. Divided by several important monuments running the length of its center, the street is named for Daniel O'Connell, an Irish patriot. . O'Connell stands high above the unhurried crowds of shoppers, business people, and students on a sturdy column, surrounded by four serene angels seated at each corner of the monument's base. Further up the street is the famous General Post Office that locals affectionately call the GPO. During the 1916 rebellion, the GPO was taken over from British rule and occupied by Irish rebels, sparking weeks of armed combat in the city's center. To this day, the angels of O'Connell's monument bear the marks of the fighting: One sits reading calmly, apparently unaware of the bullet hole dimpling her upper arm; another, reaching out to stroke the ears of a huge bronze Irish wolfhound has survived what should be a mortal wound to her heart.

Which sentence, if inserted in the blank space in the passage, would be the most correct and contribute the most pertinent information to that paragraph?

- A. His monument stands at the lower end of the road, that is, the end closest to the river Liffey that bisects Dublin.
- B. Other monuments along the street include statues to Charles Parnell, Anna Livia Plurabelle, and James Joyce.
- C. Dublin tourist buses leave from this site every 20 minutes.
- D. Daniel O'Connell was an important Irish nationalist, who died before the 1916 rebellion.

Answer key:

A. His monument stands at the lower end of the road, that is, the end closest to the river Liffey that bisects Dublin. Theory:

Option A:

This choice sticks to the subject, Daniel O'Connell. It provides a transition to the sentence following it by giving information about the location of the statue. Choices b and c swerve off topic, and choice d essentially repeats information given elsewhere in the paragraph.

Suggested Reading: Passages and Interpretations

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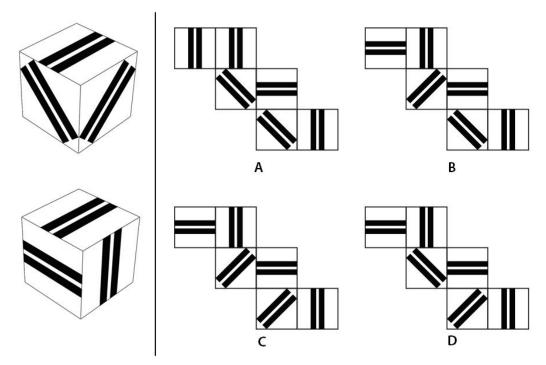


VISUAL REASONING LOGICAL DERIVATION NUMERICAL ABILITY

GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN

DESIGN THINKING LANGUAGE INTERPRETATION DESIGN SENSITIVITY

Shown on the left are all the 6 faces of a cube. Which option can be folded into this cube?



A. A C. C

B. B D. D

Answer key: Theory:

The option C when folded forms the cube that is shown to the left. The other options A, B and D do not form the cube when folded.

C. C

A careful study of the pattern on both sides of he cube to be studied and matched to the options given.

Suggested Reading: 2D and 3D rotation

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