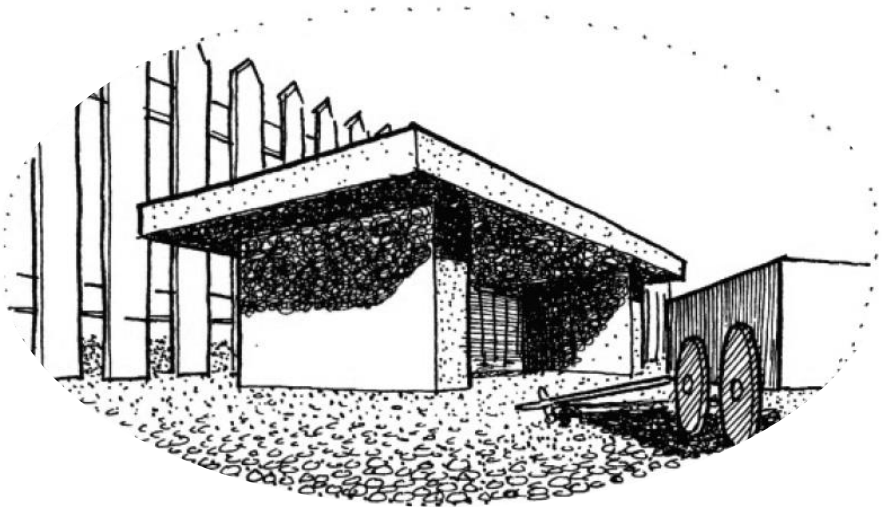
VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN		
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

A father and his 3 year old kid is playing near a bench in an park. Suddenly a person who comes to pick a ball near the bench trips off. Among the father, child and the fallen person, who will be viewing the bench, as given below.



Source: Perspective Drawing Handbook-Joseph D Amelio

A. Father of the kid near the bench is viewing it.	**C. The child playing with a toy near the shorter side of the bench is viewing it.**
B. The child playing with a toy near the longer side of the bench is viewing it.	**D. The fallen person looks at the bench raising its head.**

Answer key:

D. A person falls near the bench and looks at the bench raising its head.

Theory:

TWO POINT PERSPECTIVE:

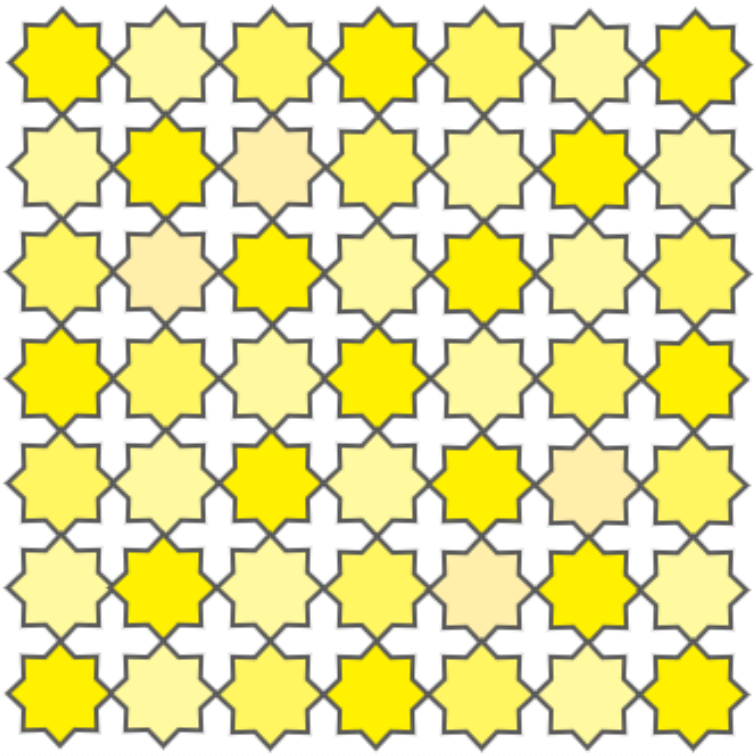
Two point perspective (angular perspective) has two vanishing points on the horizon line, which do not necessarily need to be within the picture plane. ***If the object is above the horizon line, the viewer can see the base of the object***

Suggested Reading: Basics of Two point Perspective

" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	**LOGICAL DERIVATION**	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

What type of colours are used to create the Jalli pattern?



Source: CAAD-DRL

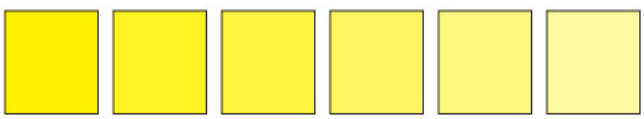
A. Complimentary Colours	**B. Triadic colours**
C. Shades of Yellow	**D. Tints of Yellow**

Answer key:

D. Tints of Yellow

Theory:

Tints of the colours are obtained by adding white to the pure hue/ colour

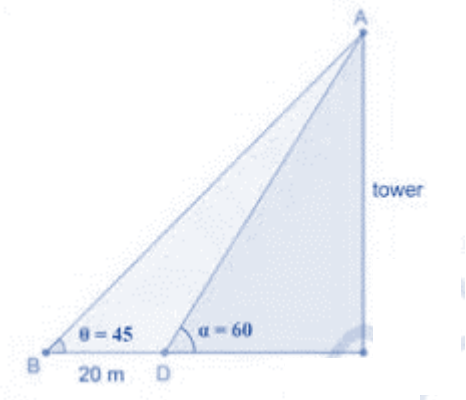


Suggested Reading: colour theory

" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

The angle of elevation of the top of a tower from point A on the ground is 45°. On moving 20 meters toward the tower, the angle of elevation of the top of the tower becomes 60°. Find the height of the tower (in meters).



A. 33.72 m	B. 45.72 m
C. 60.33 m	D. 30.66 m

Answer key:

B. 45.72 m

Theory:

Let h be the height of the tower and x be the distance between the initial position and the foot of the tower.

From the right-angled triangle ACB, where C is the foot of the tower, we have: $\tan(45°) = h / x \Rightarrow h = x$

From the right-angled triangle DCB, where D is the new position of the observer, we have:

$\tan(60°) = h / (x - 20) \Rightarrow h = (x - 20) \times \sqrt{3}$

Equating both expressions for h, we get: $x = (x - 20) \times \sqrt{3}$

Simplifying, we get: $x = 20 \times (\sqrt{3} + 1)$

Therefore, the height of the tower is:

$h = x = 20 \times (\sqrt{3} + 1)$ meters = 45.72 meters

Suggested Reading: Trigonometry

" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

A third of Arun's marks in mathematics exceeds a half of his marks in English by 30. If he got 240 marks in the two subjects together, how many marks did he get in English?

A. 60	**B. 180**
C.120	**D. 30**

Answer key:

A. 60

Theory:

Let Arun's marks in Mathematics and English be x and y respectively.

Then, $\frac{1}{3}x - \frac{1}{2}y = 30$

$2x - 3y = 180$ *...(i)*

And $x + y = 240$ *...(ii)*

Solving (i) and (ii), we get:

$x = 180$

$y = 60.$

Arun's marks in English = 60.

Suggested Reading: Basic Algebra

" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

_____ is a structure made by enclosing a series of arches by columns or piers.

Source: pixels.com

A. Arcade	**B. Purlin**
C. Coping	**D. Sill**

Answer key:

A. Arcade

Theory:

Arcade, in architecture, a series of arches carried by columns or piers, a passageway between arches and a solid wall, or a covered walkway that provides access to adjacent shops. it may be attached to a wall (blind) or freestanding.

An arcade that supports a wall, a roof, or an entablature gains enough strength from lateral thrusts that each individual arch exerts against the next to carry tremendous weight loads and to stretch for great distances.

Suggested Reading: Basics of building construction/Components
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

Sleek bronze, Mies van der Rohe, NYC skyscraper minimalism:

Source:Looking Back at One of Mies van Der Rohe's Most Famous Buildings (hyperallergic.com)

A. Petronas Towers	**C. Seagram Building**
B. Burj Khalifa	**D. Shanghai Tower**

Answer key:

C) Seagram Building

Theory:

Explanation: The sleek bronze facade, Mies van der Rohe association, and minimalist style clearly identify the Seagram Building, a prime example of the International Style and Mies van der Rohe's architectural philosophy.

Suggested Reading: History of Architecture
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN		
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

Design thinking principles DO NOT include

A. Feasibility

B. Viability

C. Desirability

D. Credibility

Answer key:

D. Credibility

Theory:

Design thinking principles revolve around creating innovative solutions that address human needs. These principles typically include feasibility, viability, and desirability.

Suggested Reading: Design Thinking
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
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.

What is the best definition for the underlined word trump as it is used in the first paragraph of the passage?

A. to trumpet loudly, to blare or drown out

B. to trample

C. to get the better of by using a key or hidden resource

D. to devise a fraud, to employ trickery

Answer key:

C. to get the better of by using a key or hidden resource

Theory:

Option C:
The hidden or key resource mentioned in the passage is the fine distinction between the definition of street and boulevard, which is used to win the argument with or get the better of tourists. Choices A and B do not make sense; answer D is incorrect because there is no real fraud used in the argument in the passage.

Suggested Reading: Passages and Interpretations
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
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.

With which of the following statements about the people of Dublin would the author of the passage most likely agree?

A. They are proud of their history but lack industry.

B. They are playful and tricky.

C. They are rebellious and do not like tourists.

D. They are witty and relaxed.

Answer key:

D. They are witty and relaxed.

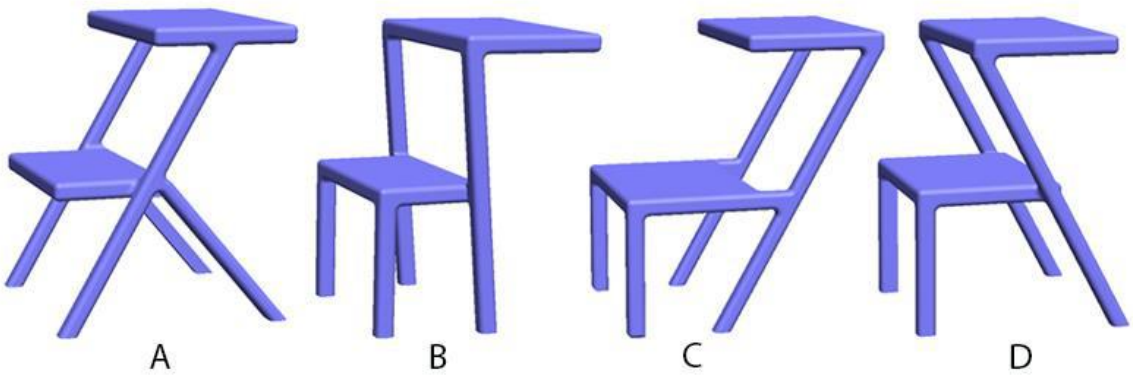
Theory:

Option D:
The author offers an example of Dublin wit and mentions the unhurried pace of Dublin crowds. Choice A interprets the adjective unhurried in too negative a manner for the tone of the passage. Choices B and C similarly interpret the playful joke on French tourists too disparagingly.

Suggested Reading: Passages and Interpretations
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
	GENERAL KNOWLEDGE, ARCHITECTURE & DESIGN	
DESIGN THINKING	LANGUAGE INTERPRETATION	DESIGN SENSITIVITY

Shown below are different forms for a step-stool. Which of the forms will remain stable when a person is standing on the top step?



A. A, B	**C. C, D**
B. B, C	**D. A, D**

Answer key:

D. A and D

Theory:

D. A and D

The option B and C are not stable and when stepped on tends to fall over. The options A and D have forces coming from opposite directions that will keep the stool stable on loading.

Suggested Reading: Basic Structural Design Principles
" For a swift review of the subject, kindly consult the study materials available on the website"