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

The figure shows the isometric view of an object. Identify the correct front view looking in the direction of the arrow.

A   B   C   D
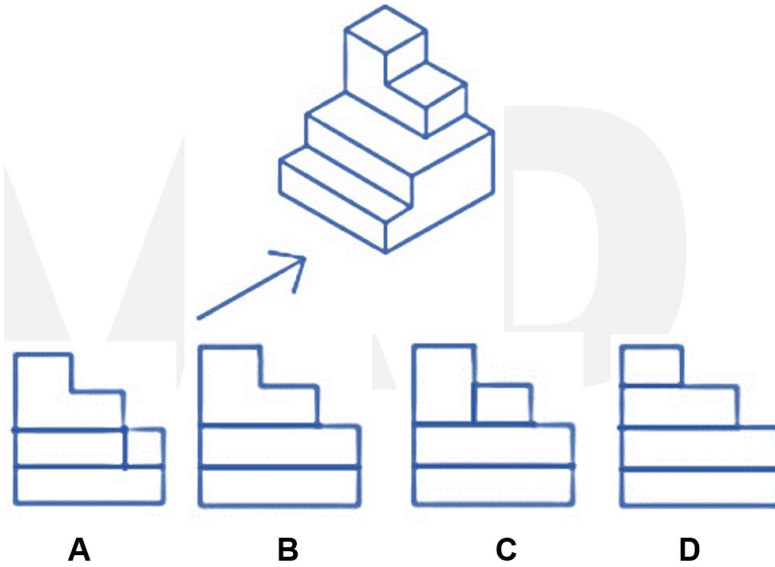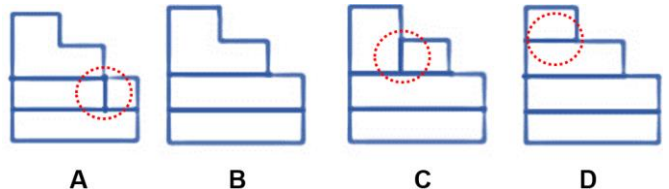
A. Option A	B. Option B
C. Option C	D. Option D

Answer key:

B.

Theory:

The lines inside the red circles are the lines which are not possible in the front view. So Option B is correct

A   B   C   D

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

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Following map is a good example of _____ organization.

Source: cnu.org/public square

| A. Centralised Organization	B. Linear Organization
C. Radial Organization	D. Grid Organization

Answer key:

D.

Theory:

Grid organization
- *Space organized within the field of a structural grid or another three-dimensional framework.*
- *A grid is established in architecture most often by a skeletal structural system of columns and beams.*
- *Within the field of this grid, spaces can occur as isolated events or as repetitions of the grid module.*
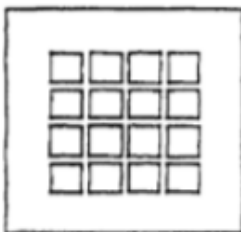
Suggested Reading: organizing principles
" For a swift review of the subject, kindly consult the study materials available on the website"

VISUAL REASONING	LOGICAL DERIVATION	NUMERICAL ABILITY
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A train leaves station X at 5 a.m. and reaches station Y at 9 a.m. Another train leaves station. Y at 7 a.m. and reaches station X at 10.30 a.m. At what time do the two trains cross each other?

X *Starts at 5 am Reaches Y at 9am* *Starts at 7 am Reaches X at 10.30 am* **Y**
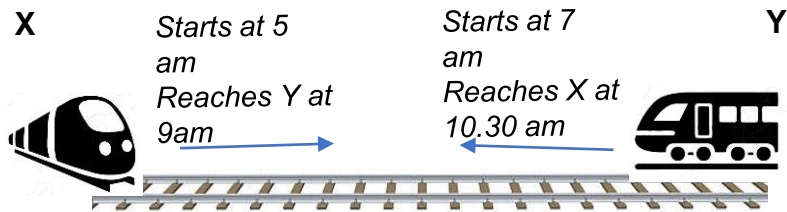
A. **7 : 36 am**	B. **8 : 36 am**
C. **7 : 56 am**	D. **8 : 56 am**

Answer key:

C. 7:56 am

Theory:

Let the distance between X and Y be x km.
Then, the speed of A is x/4 km/h
that of B is 2x/7 km/h.
Relative speeds of the trains
*   = x /4 + 2x/ 7 = 15x/ 28 km/h*
Therefore the distance between the trains at 7 a.m.
*   = x − x/2 = x/2 km*
Hence, time taken to cross each other
*   = (x/2)/(15x/28)*
*   = x/2 x 28/15x*
*   =14/15 × 60*
*   = 56 min.*
Thus, both of them meet at 7:56 am

Suggested Reading: Problems related to speed
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The water in a rectangular reservoir having a base 80 metres by 60 metres is 6.5 metres deep. In what time can the water be emptied by a pipe whose cross section is a square of side 20 cm, if the water runs through the pipe at the rate of 15 km per hour?

Cross section of pipe = 20cm
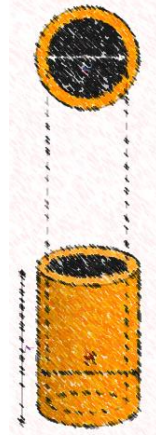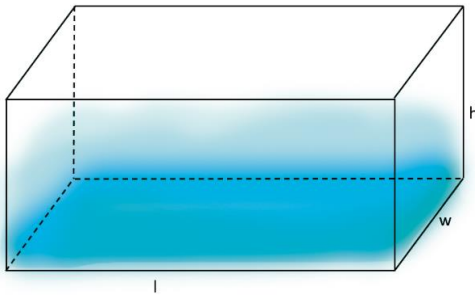
A. **52 hrs**	B. **26 hrs**
C. **45 hrs**	D. **66 hrs**

Answer key:

A. 52 Hrs

Theory:

Length of reservoir = 80 m
Breadth of reservoir = 60 m
Depth of reservoir = 6.5 m
Volume of reservoir = length × breath × height
Volume of reservoir = 80×60×6.5 = 31200m^3
Rate = 15Km per hour
So, Amount of water flowing in 1 hour = 15 km = 15000 m
So, Volume of water coming out of cross section in 1 hour = 0.2×0.2×15000=600
So, Time taken to empty tank = Volume of tank/ Volume of water coming out of tank in an hour
Time taken to empty tank $\qquad$ = 31200/600
$\qquad$ = 52
Hence it will take 52 hours to empty tank

Suggested Reading: Problems related to volume and velocity
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_____ means movement of air within the building and between the building and the outdoors

Source: getdrawings.com

A. Horse shoe arch	B. Semicircular arch
C. Flat arch	D. Pointed arch

Answer key:	Theory:
D. Pointed arch	*An arch with a pointed apex. Characteristic of Gothic architecture. Pointed arches transfers less stress on the structural elements and allowed for taller arches, thinner walls, and much more interior space.*

Suggested Reading: Basics of building construction/Components
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Which monument features colossal stone figures guarding its entrance?

A. Great Wall of China	C. Stonehenge
B. Easter Island Moai	D. Giza Pyramids

Answer key:

Theory:

•*Explanation: Easter Island Moai: The iconic Moai statues, carved from volcanic rock, stand tall and imposingly near the island's coastline, arguably symbolizing protection or guardianship for the Rapa Nui people.*

B) Easter Island Moai

Suggested Reading: History Of Architecture
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What is Divergent Thinking?

A. A type of thinking that follows a single path to a solution .

B. A method used to create detailed architectural drawings.

C. A process of exploring multiple possibilities and generating numerous ideas.

D. A technique for evaluating the structural stability of buildings.

Answer key:

C. A process of exploring multiple possibilities and generating numerous ideas.

Theory:

Divergent thinking involves exploring multiple possibilities and generating a wide range of ideas without judgment or criticism. It encourages creativity and exploration of unconventional solutions.

Suggested Reading: Design Thinking
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Read the passage below and answer the questions that follow:

The ravages [of the storm] were terrible in America, Europe, and Asia. Towns were overthrown, forests uprooted, coasts devastated by the mountains of water which were precipitated on them, vessels cast on the shore, whole districts levelled by waterspouts, several thousand people crushed on land or drowned at sea; such were the traces of its _____, left by this devastating tempest.

-Ralph Waldo Emerson

What is the meaning of the word over throwing in the context of this passage?

A. surrendered	C. capitulated
B. devastated	D. yielded

Answer key:

B. devastated

Theory:

"Towns were" cannot be followed up with "surrendered", "capitulated" or "yielded". The passage talks about damages caused by the storm, and hence "were" should be deleted if any of those three options are used. That eliminates options A, C and D, leaving us with the right answer choice of B.

The question is "What is the meaning of the word over throwing in the context of this passage?"

Hence, the answer is devastated

Suggested Reading: Critical Reasoning (Passage - Synonym based on context)
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-Ralph Waldo Emerson

What is the meaning of the word levelled as it is used in the passage?

A. razed	C. spread
B. marked	D. raised

Answer key:

A. razed

Theory:
"Whole districts levelled by waterspouts" is the phrase we need to take into consideration. "Districts" here refers to buildings, which means tall structures were destroyed by waterspouts. "Razed" is the word that expresses bringing down constructional structures down to earth. Hence, the right answer choice is option A.

The question is "What is the meaning of the word leveled as it is used in the passage?"

Hence, the answer is razed .

Suggested Reading: Critical Reasoning (Passage - Synonym based on context)
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The Ashok Chakra on Indian Flag has how many lines?

A. 12	C. 16
B. 18	D. 24

Answer key:	Theory:
	24 lines: *The chakra, which features in the middle of the tricolour, has twenty-four spokes. Each spoke on the chakra symbolises one principle of life and also the twenty-four hours in the day, which is why it is also called the 'Wheel of Time'.*
D. 24	

Suggested Reading: Indian symbols
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