BITSAT English Proficiency & Logical Reasoning — Sample Paper 1

Duration: 45 Minutes **Maximum Marks: 90**

Instructions

- This paper contains **30** Multiple Choice Questions: **Part A** — English Proficiency (Q1–Q10) and **Part B** — Logical Reasoning (Q11–Q30).
- Each correct answer carries **+3 marks**. Each incorrect answer carries **−1** mark. Unattempted questions carry **0** marks.
- Only **one** option is correct. Choose carefully.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

English Proficiency

Q1. Choose the word **most similar in meaning** to the underlined word:

"The loquacious host kept the audience entertained all evening."

(A) Talkative

(B) Timid

(C) Irritable

(D) Forgetful

Q2. Choose the word **most opposite in meaning** to the underlined word:

"The benevolent donor funded the entire construction of the new library."

(A) Generous

(B) Malicious

(C) Humble

(D) Indifferent

Q3. Choose the best word to complete the analogy:

PHYSICIAN : HOSPITAL :: TEACHER : ?

(A) Book

(B) Student

(C) School

(D) Classroom

Q4. Choose the word that **best completes** the sentence:

"After weeks of deliberation, the board decided to _____ its decision on the proposed merger."

(A) Announce

(B) Rescind

(C) Implement

(D) Defer

Q5. Choose the word that **best fills the blank**:

"Despite the _____ weather, the mountaineers pressed forward with their expedition."

(A) Inclement

(B) Pleasant

(C) Moderate

(D) Clear

Q6. Each sentence below is divided into four parts (A), (B), (C), (D). Identify the part that contains a **grammatical error**:

(A) Each of the students (B) have submitted (C) their assignments (D) on time.

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(C) their assignments

(D) on time

Q7. Choose the sentence that is **grammatically correct**:

(A) He is one of the student who has won the prize.

(B) Neither of the two boys were present at the meeting.

(C) She had hardly entered the room when the phone rang.

(D) He is more taller than his brother in every respect.

Q8. Arrange the following sentences **P, Q, R, S** in the correct logical order to form a coherent paragraph:

P: He then submitted the completed form at the counter.

Q: First, he collected the application form from the office.

R: Finally, he received the acknowledgement slip.

S: He carefully filled in all the required details.

(A) PQRS

(B) SQPR

(C) QPSR

(D) QSPR

Questions 9 and 10 *are based on the following passage. Read it carefully before answering.*

Reading is to the mind what exercise is to the body. A person who reads regularly develops a richer vocabulary, stronger analytical skills, and a deeper understanding of the world. In an age dominated by digital distractions, the habit of reading has become increasingly rare, yet its importance has never been greater. Books, whether fiction or non-fiction, serve as windows to worlds beyond our immediate experience and help cultivate empathy and critical thinking in the reader.

Q9. According to the passage, which of the following is a **direct benefit** of regular reading?

(A) Development of stronger analytical skills

(B) Elimination of digital distractions entirely

(C) Improved physical fitness and endurance

(D) Enhanced social media engagement

Q10. In the opening line, the author compares reading to:

(A) Digital entertainment

(B) Physical exercise

(C) Classroom learning

(D) Social interaction

Logical Reasoning

Q11. Choose the best option to complete the analogy:

PAINTER : CANVAS :: SCULPTOR : ?

(A) Marble

(B) Chisel

(C) Studio

(D) Paint

Q12. Choose the best option to complete the analogy:

LIBRARY : BOOKS :: GALLERY : ?

(A) Museum

(B) Paintings

(C) Artists

(D) Sculptures

Q13. Choose the best option to complete the analogy:

DOCTOR : STETHOSCOPE :: CARPENTER : ?

(A) Wood

(B) Furniture

(C) Saw

(D) House

Q14. What is the **next number** in the series?

$2,\ 6,\ 12,\ 20,\ 30,\ ?$

(A) 36

(B) 38

(C) 40

(D) 42

Q15. What is the **next term** in the series?

$AZ,\ BY,\ CX,\ DW,\ ?$

(A) EW

(B) FV

(C) FW

(D) EV

Q16. Find the **missing number** in the series:

$3,\ 9,\ 27,\ 81,\ ?,\ 729$

(A) 162

(B) 243

(C) 189

(D) 216

Q17. In a certain code, **BRAIN** is written as **DTCKP**. Using the same rule, what is the code for **TRAIN**?

(A) VTCLP

(B) DTCKP

(C) VTCKP

(D) UTCKP

Q18. In a certain code, **PENCIL** is written as **LICNEP**. What is the code for **RUBBER**?

(A) REBBER

(B) RUBERB

(C) REBBUR

(D) RUEBBR

Q19. Pointing to a photograph, Ravi says, "She is the daughter of my grandfather's only son." How is the girl in the photograph related to Ravi?

(A) Mother

(B) Aunt

(C) Sister

(D) Cousin

Q20. Introducing a man, a woman says, "His mother is the only daughter of my mother." How is the woman related to the man?

(A) Grandmother

(B) Mother

(C) Sister

(D) Aunt

Q21. Priya starts from her house and walks **4 km North**, then turns **right** and walks **3 km**, then turns **right** again and walks **4 km**. How far is she from her starting point and in which direction?

(A) 3 km, East

(B) 4 km, South

(C) 5 km, North-East

(D) 3 km, North

Q22. A man is initially facing **North**. He turns **90°** **clockwise**, then turns **180°** **anticlockwise**. In which direction is he now facing?

(A) North

(B) West

(C) South

(D) East

Q23. **Statements:**

All pens are pencils.

All pencils are stationery.

Conclusions:

I. All pens are stationery.

II. Some stationery are pens.

Which conclusion(s) follow?

(A) Both I and II follow

(B) Only I follows

(C) Only II follows

(D) Neither follows

Q24. **Statements:**

No book is a magazine.

All magazines are journals.

Conclusions:

I. No book is a journal.

II. Some journals are not books.

Which conclusion(s) follow?

(A) Both I and II follow

(B) Only I follows

(C) Neither follows

(D) Only II follows

Q25. Choose the **odd one out**:

Mango Apple Banana Carrot Guava

(A) Carrot

(B) Mango

(C) Apple

(D) Guava

Q26. Choose the **number that does not belong** to the group:

121 144 169 196 225 256 280

(A) 225

(B) 121

(C) 256

(D) 280

Q27. Study the pattern in the matrix below and find the value of '**?**'.

3	6	9
5	10	15
4	8	?

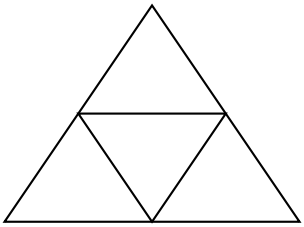
(A) 10

(B) 11

(C) 12

(D) 16

Q28. How many **triangles** are present in the figure below?



(A) 3

(B) 4

(C) 6

(D) 5

Q29. Five people **A, B, C, D, E** are standing in a row.

- A is immediately to the left of B.
- C stands at the leftmost end.
- D stands between B and E.

If C is at position 1 (leftmost), what is **D's position from the left**?

(A) 2nd

(B) 4th

(C) 3rd

(D) 5th

Q30. In a row of **12 students** standing in a line, Anu is **5th from the left** and Binu is **5th from the right**. How many students are standing **between** Anu and Binu?

(A) 2

(B) 3

(C) 4

(D) 1

Detailed Solutions

Q1.

Solution

Concept — Vocabulary: Synonyms (Word Meaning in Context): The question tests whether you know the meaning of the word *loquacious* and can identify its closest synonym.

Step 1 — Decode the word: *Loquacious* comes from the Latin *loquax* (talkative), from *loqui* (to speak). It means talking a great deal; excessively chatty or wordy. Context clue: the host "kept the audience entertained" — consistent with someone who talks a lot.

Step 2 — Evaluate the options:

- (A) **Talkative** — means inclined to talk a great deal; direct synonym of loquacious. **Correct.**
- (B) Timid — means lacking confidence; opposite in tone.
- (C) Irritable — means easily annoyed; unrelated to speaking habits.
- (D) Forgetful — means failing to remember; unrelated.

Step 3 — Related words to remember: *Garrulous, voluble, verbose, effusive* are all synonyms of loquacious. Antonyms: *taciturn, reticent, laconic*.

Final Answer: Talkative $\Rightarrow$ A

Answer: (A) Go Back to Q1

Q2.

Solution

Concept — Vocabulary: Antonyms (Opposite Meaning): Antonym questions require finding the word that is most opposite in meaning to the given word.

Step 1 — Decode the word: *Benevolent* comes from Latin *bene* (well) + *velle* (to wish). It means well-meaning, kind, and generous toward others. Context: funding a library is a classic act of benevolence.

Step 2 — Identify the antonym:

- (A) Generous — is a *synonym* of benevolent; wrong.
- (B) **Malicious** — means intending harm or ill will; the direct opposite of benevolent. **Correct.**
- (C) Humble — means modest; unrelated to generosity or ill will.

- (D) Indifferent — means showing no interest; a partial opposite but not the strongest antonym.

Step 3 — Key antonym pair to memorise: Benevolent ↔ Malevolent/Malicious. Notice the *bene-* (good) vs *male-* (bad) Latin prefixes: benign/malign, benefit/malefactor, etc.

Final Answer: Malicious ⇒ B

Answer: (B) Go Back to Q2

Q3.

Solution

Concept — Verbal Reasoning: Word Analogies (Place of Work): Identify the relationship between the first pair, then apply it to the second.

Step 1 — Identify the relationship: PHYSICIAN : HOSPITAL

A physician works at a hospital. The relationship is **professional : workplace**.

Step 2 — Apply to TEACHER : ? A teacher's primary workplace is a school. Evaluate options:

- (A) Book — a tool, not a workplace.
- (B) Student — the audience, not the location.
- (C) **School** — the workplace of a teacher. **Correct.**
- (D) Classroom — a classroom is part of a school, but the broader/parallel term is "school" (just as "hospital" is the broader institution for a physician, not just the "ward").

Step 3 — Common analogy types in BITSAT: *Tool of profession* (Doctor:Stethoscope), *place of work* (Lawyer:Court), *product and producer* (Baker:Bread), *part and whole* (Chapter:Book). Always check the *type* of relationship before selecting.

Final Answer: School ⇒ C

Answer: (C) Go Back to Q3

Q4.

Solution

Concept — Vocabulary: Fill in the Blank (Precise Word Choice): The right word must be both grammatically correct and contextually precise.

Step 1 — Read for context: The board "decided to _____ its decision on the proposed merger" after "weeks of deliberation." The phrase "weeks of deliberation" without a final resolution suggests the decision is being *postponed*, not implemented or announced.

Step 2 — Evaluate options:

- (A) Announce — to make public; contradicts "after deliberation without resolution."
- (B) Rescind — to revoke or cancel an earlier decision; implies one was already made.
- (C) Implement — to carry out; opposite of postponing.
- (D) **Defer** — to postpone or delay; fits perfectly. "Defer a decision" is a standard colocation. **Correct.**

Step 3 — Collocation tip: Common colocations: *defer a decision/judgment/payment*; *rescind an order/policy/contract*; *implement a plan/policy/rule*. Knowing colocations prevents choosing near-synonyms that don't fit.

Final Answer: Defer $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q4

Q5.

Solution

Concept — Vocabulary: Fill in the Blank (Weather Adjective): Context clues from the sentence determine the appropriate adjective.

Step 1 — Read for context: "Despite the _____ weather, the mountaineers pressed forward." The word "despite" signals an *obstacle* being overcome. The weather must be *unpleasant or harsh* for "pressing forward" to be noteworthy.

Step 2 — Evaluate options:

- (A) **Inclement** — means (of weather) unpleasantly cold, wet, or stormy; exactly fits. "Inclement weather" is a standard expression. **Correct.**

- (B) Pleasant — would make no logical sense with "despite"; you don't overcome pleasant weather.
- (C) Moderate — mild weather; again, no obstacle to overcome.
- (D) Clear — favourable weather; contradicts the "despite" contrast.

Step 3 — Etymology: *Inclement* = Latin *in-* (not) + *clemens* (mild, merciful). *Clement* weather = mild, pleasant. *Inclement* = the opposite. Note also: *clemency* means mercy (lenient justice), sharing the same root.

Final Answer: Inclement $\Rightarrow$ A

Answer: (A) Go Back to Q5

Q6.

Solution

Concept — Grammar: Subject-Verb Agreement with "Each": "Each" and "every" are singular indefinite pronouns and must take a singular verb.

Step 1 — Locate the subject and verb: The subject of the sentence is "Each of the students." Although "students" (plural) follows the preposition *of*, the grammatical subject is **"each"** — which is always singular.

Step 2 — Identify the error:

- Part (A): "Each of the students" — correct as a subject phrase.
- Part (B): "have submitted" — **incorrect**; because the subject is singular ("each"), the verb must be **"has submitted"**. **Error here.**
- Part (C): "their assignments" — "their" referring back to students collectively is acceptable in modern usage.
- Part (D): "on time" — adverbial phrase; correct.

Step 3 — Rule summary:

- *Each / Every / Either / Neither / One + of + plural noun* $\rightarrow$ **singular verb**.
- Correct: "Each of the students **has** submitted their assignment."
- Contrast: "All of the students **have** submitted." ("All" is plural.)

Final Answer: Part (B) "have submitted" $\Rightarrow$ B

Answer: (B) Go Back to Q6

Q7.

Solution

Concept — Grammar: Identifying Grammatically Correct Sentences: Test each option against standard grammatical rules.

Step 1 — Analyse each option:

- (A) "He is one of the student who has won the prize." — Error: "student" should be plural: *one of the students who have won.* ("One of the students who have won" uses a plural verb because "who" refers to "students.")
- (B) "Neither of the two boys were present." — Error: "Neither" (like "each") is singular, so the verb should be *was present*.
- (C) **"She had hardly entered the room when the phone rang."** — Correct! The correlative structure *hardly... when* is standard. Past perfect (*had entered*) for the first action; simple past (*rang*) for the second. **Correct.**
- (D) "He is more taller than his brother." — Error: double comparative; should be *taller than*, not *more taller*.

Step 2 — Key grammar rules tested:

- *Hardly/Scarcely... when/before* and *No sooner... than* are standard correlative pairs.
- Neither/Either/Each/Every → singular verb.
- "One of the + plural noun + who/that" → plural verb after "who".
- Never use "more" with an adjective already in comparative form (-er).

Final Answer: Option (C) ⇒ C

Answer: (C) Go Back to Q7

Q8.

Solution

Concept — Sentence Arrangement: Logical Sequence of a Process: Identify the chronological or logical order using time/sequence indicators and cause-effect links.

Step 1 — Identify the opening sentence: Sentence **Q** starts with "First, he collected the application form..." — the word *First* is an explicit sequence marker; **Q must come first**.

Step 2 — Build the chain:

- Q: Collected the form. → before filling it in.
- S: "He carefully filled in all the required details." → logical next step after collecting the form.
- P: "He then submitted the completed form at the counter." → *then* signals this follows filling in.
- R: "Finally, he received the acknowledgement slip." → *Finally* is an explicit closing marker; R is last.

Step 3 — Confirm the sequence: Q → S → P → R = **QSPR**. Check each transition: Collect → Fill in → Submit → Receive receipt. Logical, chronological, causal. ✓

Step 4 — Tip for sentence-arrangement questions: Always look for: (1) explicit markers (*First, Then, Finally, However*); (2) pronoun references ("He" refers back to a named person); (3) chronological flow; (4) cause-effect.

Final Answer: QSPR ⇒ D

Answer: (D) Go Back to Q8

Q9.

Solution

Concept — Reading Comprehension: Factual Retrieval: RC factual questions require locating the specific information in the passage without inferring beyond what is stated.

Step 1 — Re-read the relevant sentence: "A person who reads regularly develops a **richer vocabulary**, **stronger analytical skills**, and a **deeper understanding of the world**."

Step 2 — Match with options:

- (A) **Development of stronger analytical skills** — directly stated in the passage. **Correct.**
- (B) Elimination of digital distractions — the passage says distractions have increased, not that reading eliminates them.
- (C) Improved physical fitness — the passage uses exercise as a *metaphor*; physical fitness is never claimed as a benefit.
- (D) Enhanced social media engagement — not mentioned anywhere in the passage.

Step 3 — RC strategy: For factual questions, go back to the passage and find the exact line. Do not choose options that *sound reasonable* but are not in the text.

Final Answer: Development of stronger analytical skills ⇒ A

Answer: (A) Go Back to Q9

Q10.

Solution

Concept — Reading Comprehension: Analogy/Comparison Identification: The question asks what the author compares reading to in the opening line.

Step 1 — Locate the comparison: The opening line: "Reading is to the mind what **exercise** is to the body."

This is a classic analogy: Reading : mind = Exercise : body. The comparison is explicitly to **physical exercise**.

Step 2 — Evaluate options:

- (A) Digital entertainment — not the comparison; in fact, digital distractions are contrasted with reading.
- (B) **Physical exercise** — directly stated: "exercise is to the body." **Correct.**
- (C) Classroom learning — not mentioned in the passage.
- (D) Social interaction — not the comparison used.

Step 3 — Analogy structure: "A is to X what B is to Y" = A benefits X in the same way B benefits Y. Reading benefits the *mind*; exercise benefits the *body*.

Final Answer: Physical exercise ⇒ B

Answer: (B) Go Back to Q10

Q11.

Solution

Concept — Verbal Analogy: Artist and Working Material: Identify the relationship type, then apply it consistently.

Step 1 — Relationship in the given pair: PAINTER : CANVAS

A painter works *on* or *with* canvas as their primary working material/surface. Relationship: **artist : primary working material**.

Step 2 — Apply to SCULPTOR : ? A sculptor's primary working material is traditionally **marble** (or stone/clay). Evaluate options:

- (A) **Marble** — the primary material a sculptor shapes. **Correct.**

- (B) Chisel — a *tool*, not a material; chisel : sculptor = brush : painter (tool relationship, different from the given pair).
- (C) Studio — a workplace, not a material; this would match the "place of work" analogy.
- (D) Paint — a material used by painters, not sculptors; wrong direction.

Step 3 — Spotting the distractor: Option (B) "chisel" is a classic distractor because it is strongly associated with sculptors. But the relationship in the given pair is *material*, not *tool*.

Final Answer: Marble ⇒ A

Answer: (A) Go Back to Q11

Q12.

Solution

Concept — Verbal Analogy: Institution and Its Contents:

Step 1 — Relationship: LIBRARY : BOOKS

A library is a place that *houses* or *displays* books. Relationship: **institution : what it contains/displays**.

Step 2 — Apply to GALLERY : ? An art gallery is a place that displays **paintings** (and other artworks). Evaluate:

- (A) Museum — a museum houses artefacts, not the right parallel (and museum ≠ contents).
- (B) **Paintings** — what a gallery displays. **Correct.**
- (C) Artists — people who create art, not the contents of a gallery.
- (D) Sculptures — while some galleries hold sculptures, the primary and most direct answer for a *gallery* is paintings.

Final Answer: Paintings ⇒ B

Answer: (B) Go Back to Q12

Q13.

Solution

Concept — Verbal Analogy: Professional and Their Primary Tool:

Step 1 — Relationship: DOCTOR : STETHOSCOPE

A stethoscope is the *signature tool* most closely associated with a doctor. Relationship: **professional : signature/primary tool**.

Step 2 — Apply to CARPENTER : ? The signature tool of a carpenter is the **saw** (used to cut wood). Evaluate:

- (A) Wood — the raw material, not a tool.
- (B) Furniture — the end product, not a tool.
- (C) **Saw** — the primary cutting tool used by a carpenter. **Correct.**
- (D) House — a final construction, not a tool.

Step 3 — Distractor alert: "Wood" (option A) is tempting because carpenters work with wood, but the relationship in the given pair is *tool*, not *material*.

Final Answer: Saw $\Rightarrow$ C

Answer: (C) Go Back to Q13

Q14.

Solution

Concept — Number Series: Product of Consecutive Integers ($n \times (n+1)$):

Step 1 — Identify the pattern: List the terms and their position:

Position n	Term	Formula
1	2	1×2
2	6	2×3
3	12	3×4
4	20	4×5
5	30	5×6
6	**?**	6×7

Pattern: each term $= n \times (n+1)$ where n is the position.

Step 2 — Compute the 6th term: $6 \times 7 = \mathbf{42}$

Step 3 — Verify with differences: $6-2=4,\ 12-6=6,\ 20-12=8,\ 30-20=10$. Differences are even numbers increasing by 2 each time. Next difference: $10+2=12$; so next term: $30+12=42$. ✓

Final Answer: 42 $\Rightarrow$ D

Answer: (D) Go Back to Q14

Q15.

Solution

Concept — Letter Series: Dual Sequence (Forward + Backward):

Step 1 — Analyse the first letters: A, B, C, D, **?** $\rightarrow$ alphabetically forward: next is **E**.

Step 2 — Analyse the second letters: Z, Y, X, W, **?** $\rightarrow$ alphabetically backward: next is **V**.

Step 3 — Combine: Next term = **EV**.

Step 4 — Evaluate options:

- (A) EW — correct first letter but wrong second (W is already used).
- (B) FV — wrong first letter.
- (C) FW — both letters wrong.
- (D) **EV** — correct. **Correct.**

Step 5 — Tip: In dual-letter series, always analyse the first-letter sequence and second-letter sequence *separately*, then recombine.

Final Answer: EV $\Rightarrow$ D

Answer: (D) Go Back to Q15

Q16.

Solution

Concept — Number Series: Geometric Progression (Common Ratio = 3):

Step 1 — Identify the pattern: $3,\ 9,\ 27,\ 81,\ ?,\ 729$

Each term is the previous term multiplied by 3: $3 \times 3 = 9$; $9 \times 3 = 27$; $27 \times 3 = 81$; $81 \times 3 = \mathbf{243}$; $243 \times 3 = 729$ ✓

Step 2 — Verify using powers of 3: $3^1 = 3,\ 3^2 = 9,\ 3^3 = 27,\ 3^4 = 81,\ 3^5 = 243,\ 3^6 = 729$. The missing term is $3^5 = 243$.

Step 3 — Evaluate options:

- (A) 162 — not a power of 3.
- (B) **243** — 3^5; correct. **Correct.**
- (C) 189 — not a power of 3.
- (D) 216 — 6^3; not a power of 3.

Final Answer: 243 $\Rightarrow$ B

Answer: (B) Go Back to Q16

Q17.

Solution

Concept — Coding-Decoding: Consistent Letter Shift:

Step 1 — Decode the rule from BRAIN $\rightarrow$ DTCKP:

Original	Position	Coded (Position $+2$)
B	2	D (4)
R	18	T (20)
A	1	C (3)
I	9	K (11)
N	14	P (16)

Rule: each letter is replaced by the letter **2 positions ahead** in the alphabet.

Step 2 — Apply to TRAIN:

Original	Position	Coded (Position $+2$)
T	20	V (22)
R	18	T (20)
A	1	C (3)
I	9	K (11)
N	14	P (16)

TRAIN $\rightarrow$ **VTCKP**

Step 3 — Evaluate options:

- (A) VTCLP — L is wrong (K expected at position 4).
- (B) DTCKP — this is the code for BRAIN, not TRAIN.
- (C) **VTCKP** — matches exactly. **Correct.**
- (D) UTCKP — U would mean T shifted by $+1$, not $+2$.

Final Answer: VTCKP $\Rightarrow$ C

Answer: (C) Go Back to Q17

Q18.

Solution

Concept — Coding-Decoding: Word Reversal Rule:

Step 1 — Identify the rule from PENCIL → LICNEP: P-E-N-C-I-L reversed = L-I-C-N-E-P = **LICNEP**. Rule: the word is written **in reverse order**.

Step 2 — Apply to RUBBER: R-U-B-B-E-R reversed = R-E-B-B-U-R = **REBBUR**

Step 3 — Evaluate options:

- (A) REBBER — incorrect; positions 4 and 5 are wrong (should be BU, not BE).
- (B) RUBERB — incorrect; not a proper reversal.
- (C) **REBBUR** — correct reversal of RUBBER. **Correct.**
- (D) RUEBBR — incorrect ordering.

Tip: Always write out the original word letter by letter, number the positions, then reverse. Avoid guessing from memory.

Final Answer: REBBUR ⇒ C

Answer: (C) Go Back to Q18

Q19.

Solution

Concept — Blood Relations: Tracing Family Links Step by Step:

Step 1 — Break the statement into steps: Ravi says: "She is the daughter of my grandfather's only son."

- My **grandfather's only son** = Ravi's **father** (since the grandfather has only one son, that son must be Ravi's father).
- **Daughter of my father** = Ravi's **sister**.

Step 2 — Evaluate options:

- (A) Mother — Ravi's mother is his father's wife, not daughter.
- (B) Aunt — an aunt would be his father's sister; but "grandfather's only son" leaves no room for a sister of his father.
- (C) **Sister** — daughter of Ravi's father = his sister. **Correct.**
- (D) Cousin — a cousin would be the child of his uncle or aunt; does not apply here.

Step 3 — Blood relation strategy: Always start from the person *speaking* and trace each link one at a time. Avoid skipping steps or working backwards.

Final Answer: Sister $\Rightarrow$ C

Answer: (C) Go Back to Q19

Q20.

Solution

Concept — Blood Relations: Self-Referential Statement:

Step 1 — Trace the links: The woman says: "His mother is the only daughter of my mother."

- "The only daughter of my mother" = the woman herself (she is her own mother's only daughter).
- Therefore: his mother = the woman herself.
- The woman is **his mother**.

Step 2 — Evaluate options:

- (A) Grandmother — would require an extra generation; not supported.
- (B) **Mother** — she is his mother. **Correct.**
- (C) Sister — a sister cannot be your mother.
- (D) Aunt — an aunt is a parent's sibling; does not follow from the statement.

Key insight: Whenever a statement includes "the only [son/daughter] of my [parent]", it is a self-reference — the speaker IS that person.

Final Answer: Mother $\Rightarrow$ B

Answer: (B) Go Back to Q20

Q21.

Solution

Concept — Direction and Distance: Coordinate Tracing:

Step 1 — Plot each move from the origin (0, 0):

- Start: $(0, 0)$.
- Walk **4 km North**: $(0, 4)$.
- Turn **right** (from North, right = East); walk **3 km**: $(3, 4)$.

- Turn **right** (from East, right = South); walk **4 km**: $(3, 0)$.

Step 2 — Compute distance from start: Final position: $(3, 0)$. Starting position: $(0, 0)$.

Distance $= \sqrt{(3-0)^2 + (0-0)^2} = \sqrt{9} = 3\,\text{km}$.

Step 3 — Determine direction: Final position $(3, 0)$ is directly **East** of the starting point $(0, 0)$.

Step 4 — Evaluate options:

- (A) **3 km, East** — matches. **Correct.**
- (B) 4 km, South — distance and direction both wrong.
- (C) 5 km, North-East — wrong; a $5\,\text{km}$ diagonal would require a 3-4-5 triangle, but final position is due East.
- (D) 3 km, North — direction wrong.

Final Answer: 3 km, East $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q21

Q22.

Solution

Concept — Direction: Clockwise and Anticlockwise Turns:

Step 1 — Starting direction: North.

Step 2 — First turn: 90° clockwise from North: Clockwise order: N $\rightarrow$ E $\rightarrow$ S $\rightarrow$ W. A 90° clockwise turn from North = **East**.

Step 3 — Second turn: 180° anticlockwise from East: Anticlockwise order: E $\rightarrow$ N $\rightarrow$ W. A 180° anticlockwise turn from East passes through North and reaches **West**.

Step 4 — Evaluate options:

- (A) North — would require a 90° anticlockwise from East, not 180°.
- (B) **West** — 180° anticlockwise from East = West. **Correct.**
- (C) South — would be 90° clockwise from East.
- (D) East — starting position after the first turn; not the final answer.

Shortcut: 180° turn (either direction) always gives the *opposite* direction. Opposite of East = West.

Final Answer: West $\Rightarrow$ $\boxed{B}$

Answer: (B) Go Back to Q22

Q23.

Solution

Concept — Syllogism: Universal Affirmative Statements (All. . . are):

Step 1 — Arrange using Venn diagram logic:

- Statement 1: All pens are pencils $\rightarrow$ Pens $\subset$ Pencils.
- Statement 2: All pencils are stationery $\rightarrow$ Pencils $\subset$ Stationery.
- Combined: Pens $\subset$ Pencils $\subset$ Stationery $\Rightarrow$ Pens $\subset$ Stationery.

Step 2 — Test each conclusion:

- **Conclusion I: All pens are stationery.** Since Pens $\subset$ Stationery (derived above), this is TRUE. ✓
- **Conclusion II: Some stationery are pens.** Since all pens ARE stationery, converting Conclusion I gives "Some stationery are pens." (If all of A is in B, then some of B is A.) TRUE. ✓

Step 3 — Select the answer: Both I and II follow $\rightarrow$ option **(A)**.

Rule: "All A are B" $\Rightarrow$ (i) All A are B [given], (ii) Some B are A [by conversion].

Final Answer: Both I and II follow $\Rightarrow$ $\boxed{A}$

Answer: (A) Go Back to Q23

Q24.

Solution

Concept — Syllogism: Universal Negative + Universal Affirmative:

Step 1 — Represent the statements:

- Statement 1: No book is a magazine $\rightarrow$ Books and Magazines are **completely separate sets**.
- Statement 2: All magazines are journals $\rightarrow$ Magazines $\subset$ Journals.

Step 2 — Test Conclusion I: "No book is a journal." Can a book be a journal? The statements tell us books are *not* magazines. But journals are a *superset* of

magazines — journals may contain many things that are not magazines (including books, potentially). We cannot conclude books are *never* journals. Conclusion I **does NOT necessarily follow**.

Step 3 — Test Conclusion II: "Some journals are not books." All magazines are journals, and no book is a magazine. So the magazines-that-are-also-journals are definitely *not* books. Therefore, those journals (the magazine-part) are *not* books. Hence "Some journals are not books" is **TRUE**. ✓

Step 4 — Select the answer: Only Conclusion II follows → option **(D)**.

Final Answer: Only II follows ⇒ $\boxed{\text{D}}$

Answer: (D) Go Back to Q24

Q25.

Solution

Concept — Classification: Odd One Out (Fruits vs Vegetables):

Step 1 — Classify each item:

- Mango — fruit.
- Apple — fruit.
- Banana — fruit.
- **Carrot** — a **vegetable** (root vegetable); does not belong with the others.
- Guava — fruit.

Step 2 — Identify the odd one: All items except Carrot are fruits. Carrot is the odd one out.

Step 3 — Answer: Option (A) Carrot. **Correct.**

Tip: In classification questions, identify *one* common property shared by all-but-one, and verify that the odd-one-out lacks that property. Here the property is "being a fruit."

Final Answer: Carrot ⇒ $\boxed{\text{A}}$

Answer: (A) Go Back to Q25

Q26.

Solution

Concept — Classification: Odd One Out (Perfect Squares):

Step 1 — Check whether each number is a perfect square:

- $121 = 11^2$ ✓
- $144 = 12^2$ ✓
- $169 = 13^2$ ✓
- $196 = 14^2$ ✓
- $225 = 15^2$ ✓
- $256 = 16^2$ ✓
- 280 — $\sqrt{280} \approx 16.73$; **not a perfect square.** $\times$

Step 2 — Identify the odd one: All numbers except 280 are perfect squares of consecutive integers (11^2 through 16^2). **280 is the odd one out.**

Step 3 — Nearest perfect squares around 280: $16^2 = 256$, $17^2 = 289$. Since $256 < 280 < 289$, 280 lies between two perfect squares and is itself not one.

Final Answer: $280 \Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q26

Q27.

Solution

Concept — Non-Verbal/Number Matrix: Row-Based Multiplication Pattern:

Step 1 — Observe the pattern row by row:

3	6	9
5	10	15
4	8	?

- Row 1: $3,\ 6,\ 9 \rightarrow 3 \times 1,\ 3 \times 2,\ 3 \times 3$.
- Row 2: $5,\ 10,\ 15 \rightarrow 5 \times 1,\ 5 \times 2,\ 5 \times 3$.
- Row 3: $4,\ 8,\ ? \rightarrow 4 \times 1,\ 4 \times 2,\ 4 \times 3$.

Pattern: each number in column c = (first number in row) $\times c$.

Step 2 — Compute the missing value: Row 3, Column 3: $4 \times 3 = \mathbf{12}$.

Step 3 — Alternatively, check column pattern: Column 3 values: $9,\ 15,\ ? \rightarrow 9 = 3 \times 3$, $15 = 5 \times 3$, so $? = 4 \times 3 = 12$. ✓

Final Answer: $12 \Rightarrow \boxed{C}$

Answer: (C) Go Back to Q27

Q28.

Solution

Concept — Non-Verbal Reasoning: Counting Triangles in a Figure: The figure shows a large equilateral triangle with its *medial triangle* drawn inside (connecting the three midpoints).

Step 1 — Label the figure: Let the outer vertices be A (top), B (bottom-left), C (bottom-right), and the midpoints of the sides be D (mid of AB), E (mid of BC), F (mid of AC). The inner triangle DEF is drawn.

Step 2 — List all triangles systematically: Small triangles (each formed by two outer vertices/midpoints and one midpoint):

1. Triangle ADF (top small triangle).
2. Triangle DBE (bottom-left small triangle).
3. Triangle FEC (bottom-right small triangle).
4. Triangle DEF (inner inverted triangle).

Large triangle:

5. Triangle ABC (the whole outer triangle).

Step 3 — Total count: $4 + 1 = \mathbf{5}$ triangles.

Step 4 — Evaluate options:

- (A) 3 — undercounts; misses the inverted central triangle and the outer.
- (B) 4 — misses the outer large triangle.
- (C) 6 — overcounts; there are no medium-sized triangles in this configuration.
- (D) **5** — correct. **Correct.**

Final Answer: 5 triangles $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q28

Q29.

Solution

Concept — Seating/Linear Arrangement: Constraint-Based Placement:

Step 1 — List the constraints:

- A is *immediately* to the left of B $\Rightarrow$ A and B are consecutive: ...AB...
- C is at the leftmost end $\Rightarrow$ Position 1 = C.
- D is between B and E $\Rightarrow$ B, D, E are in the order B...D...E or E...D...B.

Step 2 — Place C first: $\boxed{C}$ _ _ _ _

Step 3 — Place A and B: A is immediately left of B. With C at position 1, A can be at 2 and B at 3 (the only arrangement that keeps A immediately left of B after C): $C\ A\ B$ _ _

Step 4 — Place D and E: D is between B and E, so D must come after B (position 3). D and E occupy positions 4 and 5, with D between B(3) and E(5): $C\ A\ B\ D\ E$

Check: D(4) is between B(3) and E(5). ✓ A(2) is immediately left of B(3). ✓ C at position 1. ✓

Step 5 — D's position: D is at **position 4** from the left.

Final Answer: 4th $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q29

Q30.

Solution

Concept — Row/Queue Problems: Position from Left and Right:

Step 1 — Convert positions to a common reference (from left): Total students = 12.

- Anu is **5th from the left** $\Rightarrow$ position 5.
- Binu is **5th from the right** $\Rightarrow$ position from left $= 12 - 5 + 1 = 8$.

Step 2 — Count students between them: Anu is at position 5; Binu is at position 8.

Students *between* them are at positions 6 and 7 $\Rightarrow$ **2 students**.

Step 3 — Formula: Number between = (higher position) − (lower position) $-1 = 8 - 5 - 1 = 2$.

Step 4 — Evaluate options:

- (A) **2** — correct. **Correct.**
- (B) 3 — overcounts by one.
- (C) 4 — overcounts by two.
- (D) 1 — undercounts.

Final Answer: $2 \Rightarrow \boxed{\text{A}}$

Answer: (A) Go Back to Q30

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	B	3	C	4	D	5	A
6	B	7	C	8	D	9	A	10	B
11	A	12	B	13	C	14	D	15	D
16	B	17	C	18	C	19	C	20	B
21	A	22	B	23	A	24	D	25	A
26	D	27	C	28	D	29	B	30	A