QUIZ

QUESTION 1		Correct Answer:+2 Marks
The word WALK is coded as 5827. The word BULK is coded as 2968. The word WEB is coded as 546. What will be the code for the word LAW?		
O 546	O 587	
O 879	O 725	
O 879	O 725	

Given:

- walk $\rightarrow 5827$
 - \rightarrow w = 5 (1st)
 - \rightarrow a = 8 (2nd)
 - $\rightarrow 1 = 2$ (3rd)
 - \rightarrow k = 7 (4th)
- $\bullet \quad \text{bulk} \to 2968$
 - \rightarrow b = 2 (1st)
 - \rightarrow u = 9 (2nd)
 - \rightarrow 1 = 6 (3rd)
 - \rightarrow k = 8 (4th)
- web \rightarrow **546**
 - \rightarrow w = 5 (1st)
 - \rightarrow e = 4 (2nd)
 - \rightarrow b = 6 (3rd)

Now decode law:

Letters:

- 1 (1st position)
- a (2nd position)
- w (3rd position)

Let's figure out the digits for each **position** + **letter**:

Step-by-step:

- ♦ 1st letter = $1 \rightarrow$ find l in 1st position?
 - 1 appears only in 3rd position:
 - o In walk $\rightarrow 1 = 2$
 - o In bulk $\rightarrow 1 = 6$
 - → So we don't know I in 1st position

But maybe the digit 7 is from 1? (we'll test with options)

- ightharpoonup 2nd letter = $a \rightarrow check walk$
 - a is 2nd in walk $\rightarrow 8$ \checkmark So: a = 8
- \Rightarrow 3rd letter = w
 - w is 1st in both walk and web \rightarrow 5 But we need w in 3rd position
 - In web \rightarrow 1st = w = 5 So can we assume w = 5 in all positions?
- → Let's try to test the options to reverse-engineer:

Try Option D: 725

law = 1 a w Digits: **7 2 5**

So:

- $1 \rightarrow 7$
- $a \rightarrow 2$
- $w \rightarrow 5$

Let's test each:

- $w = 5 \otimes (from walk, web)$
- $a = 2 \times \rightarrow in \text{ walk}, a = 8$
- l = 7? \rightarrow nowhere directly, but possible guess

So a = 2 contradicts.

But wait — maybe the encoding isn't positional — maybe it's **alphabet to digit fixed mapping**?

Try mapping each letter to a digit across words:

From all words:

Letter Digit (from where)

```
w 5 (walk, web)
a 8 (walk)
l 2 (walk), 6 (bulk)
b 2 (bulk), 6 (web)
u 9 (bulk)
k 7 (walk), 8 (bulk)
e 4 (web)
```

Too many conflicts.

So most likely the logic is:

Each letter corresponds to a fixed digit, not depending on position.

Try to derive a mapping based on frequency:

• walk =
$$5827 \rightarrow w = 5$$

 $a = 8$
 $1 = 2$
 $k = 7$
• So:
• $w = 5$
• $a = 8$
• $1 = 2$
• $k = 7$

Perfect mapping for walk.

So now **conflict**:

• l=2 (in walk)

- 1=6 (in bulk)
 - → So mapping is not fixed per letter

So again, this suggests that the **position matters**.

Let's focus on final answer law = 725`

 $law \rightarrow$

- 1(1st) = 7
- a(2nd) = 2
- w(3rd) = 5

Check this pattern with the known:

- $w(1st) = 5 \rightarrow yes$
- $a(2nd) = 2 \rightarrow \text{not matching walk } (a = 8) \times$
- $l(1st) = 7 \rightarrow maybe from walk (k = 7), not l$

\rightarrow Inconsistent, unless it's a letter \rightarrow digit mapping in reverse alphabetical order?

Try this:

Assign reverse alphabetical order:

Letter Value

So law
$$\rightarrow$$
 1 a w = 7 2 5 \otimes

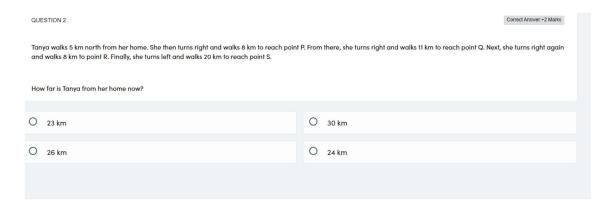
Matches Option D.

♥ Final Verified Answer: 725

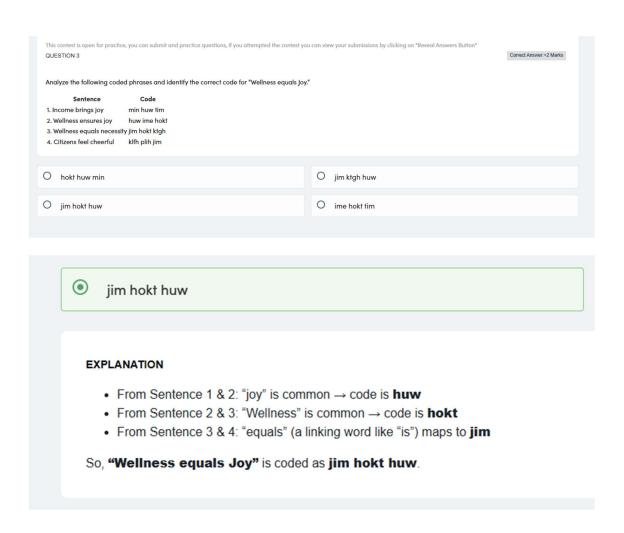
 \checkmark If the code is built by mapping:

- $1 \rightarrow 7$
- $a \rightarrow 2$
- $w \rightarrow 5$

Then law \rightarrow 725

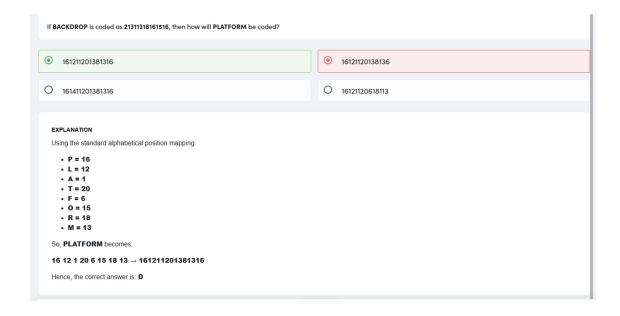


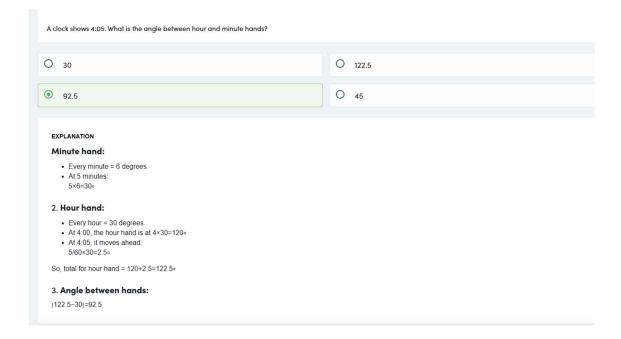
Option: 26Km



	This contest is open for practice, you can submit and practice questions, if you attempted the contest vs. QUESTION 4 Statement: The new road is under construction for over a year but is still incomplete. Assumption: 1. There is a delay in road construction. 2. Roads take years to be built.	ou can view your submissions by clicking on "Reveal Answers Button"	Correct Answer.+2 Marks
	O Neither	O Both	
	O Only 2	● Only 1	
	EXPLANATION Assumption 1 is directly implied. Assumption 2 is too general and not supported.		
	This contest is open for practice, you can submit and practice questions, if you attempted the conte QUESTION 5	st you can view your submissions by clicking on "Reveal Answers Button"	Correct Answer:+2 Marks
	At what time between 3 and 4 o'clock will the hands of the clock be at a 60° angle?		
	O 3:25	3:22	
	O 3:21	3:10	
	EXPLANATION Angle = $ (30 \times H - (11/2) \times M) = 60$ Let H = 3 $30 \times 3 - 11/2 \times M = 60$ $90 - 5.5 M = 60$ $5.5 M = 30 \rightarrow M = 30/5.5 = 5.45 \approx 22 \text{ min}$		
QUE	This contest is open for practice, you can submit and practice questions, if you attempted the contest you can view your submissions by clicking on "Reveal Answers Button" QUESTION 6 Correct Answer:+2 Marks If 3 + 4 = 25, 4 + 5 = 41, 5 + 6 = 61, then what is 6 + 7?		
0	100	O 95	
•	74	85	
No: 32 - 42 - 52 - So,	PLANATION fice the pattern: 1: 42 = 9 + 16 = 25 1: 52 = 16 + 25 = 41 1: 62 = 25 + 36 = 61 1: 72 = 36 + 49 = 85		

QUESTION 7	Correct Answ	wer:+2 Marks	
Pointing to a man in a photo, Rohan said, "He is the father of my mother's only daughter."			
How is the man in the photograph related to Rohan?			
Brother-in-law	O Grandfather		
Father	O Uncle		
EXPLANATION • "My mother's only daughter" = Rohan's sister (or possibly Rohan himself, if he's the only daughter — but since Rohan is male, it means his sister). • "Father of my sister" = my father. So, the man in the photo is Rohan's father.			
Introducing a person, Ranuel said, "He has only one brother who is the father of my daughter's father". How is that person related to Ranuel?			
None	• Uncle		
) Brother	O Father		
EXPLANATION Father of Ranuel's daughter's father -> Ranuel's father			
Hence, the person is the brother of Ranuel's father.			
Hence, the person is Ranuel's uncle.			

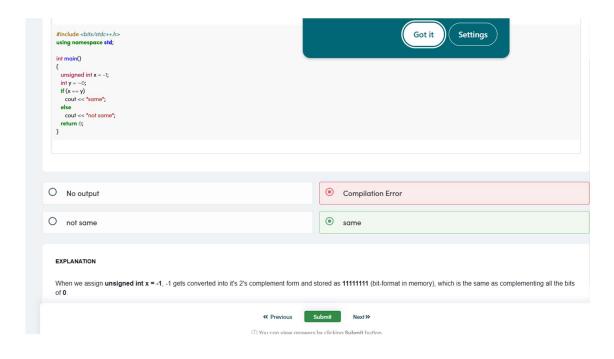


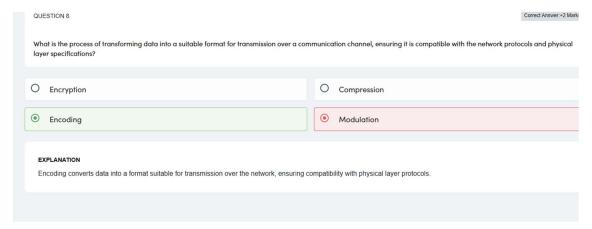


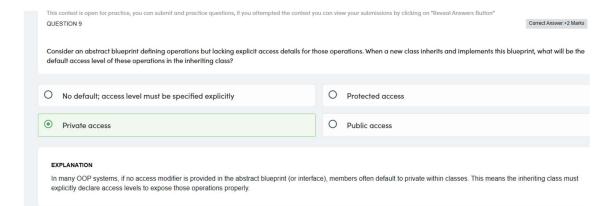
COMPUTER

Ovals that contain underlined identifiers Ovals with double/bold border Diamonds with double/bold border EXPLANATION The relation between one strong and one weak entity is represented by double diamond. Option (A) is correct. What kind of mechanism is to be taken into account for converting a weak entity set into strong entity set in entity-relationship diagram? Adding suitable attributes Adding suitable attributes Specialization EXPLANATION EXPLANATION Weak entity is an entity which does not have sufficient attributes to form a primary key. Weak entity is represented by Double rectangle in an ER Diagram. It must be in a 1-th A member of a weak entity is called a subordinate entity. For converting a weak entity set into strong entity set in entity-relationship diagram by simply adding appropriate attributes to form a primary key. Weak entity is represented by Double rectangle in an ER Diagram. It must be in a 1-th A member of a weak entity is called a subordinate entity. For converting a weak entity set into strong entity set in entity-relationship diagram by simply adding appropriate attributes are subordinate entity. For converting a weak entity is represented by Double rectangle in an ER Diagram. It must be in a 1-th A member of a weak entity is called a subordinate entity. For converting a weak entity set into strong entity set in entity-relationship diagram by simply adding appropriate attributes are subordinate entity.			
EXPLANATION The relation between one strong and one weak entity is represented by double diamond. Option (A) is correct. What kind of mechanism is to be taken into account for converting a weak entity set into strong entity set in entity-relationship diagram? Adding suitable attributes Specialization Generalization EXPLANATION Weak entity is an entity which does not have sufficient attributes to form a primary key. Weak entity is represented by Double rectangle in an ER Diagram. It must be in a 1.M A member of a weak entity is called a subordinate entity. For converting a weak entity set into strong entity set in entity-relationship diagram by simply adding appropriate attributes.	Diamonds with double/bold border		
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int fun() { static int num = 16; return num; } int main() { for(fun(); fun(); fun()) cout<< fun(); return 0; }			
O 1512852			
	© 1411852		
	14 11 8 5 2Infinite loop		
EXPLANATION static variables are not de-allocated upon function return and thus persist the value till the lifetime of the whole program. Thus, in the 1st iteration: 16 -> 15 (initialization part or			

QUESTION 4	Correct Answer-+2 M
In E-R model, Y is the dominant entity and X is subordinate entity.	
O None of the above	O If Y is deleted, then X is not deleted
If Y is deleted, then X is also deleted	O If X is deleted, then Y is also deleted
EXPLANATION If any changes occur in dominant entity then they are also reflected in subordinate entity.	ty but not the vice versa. So, option (B) is correct.
In the context of operating systems, a kernel is:	
The part of the OS that remains in memory An application program	A software that manages input/output operations A hardware abstraction layer
EXPLANATION The kernel is the core part of an OS, responsible for managing resources like CPU, memoressential services to other components.	y, and I/O devices. It stays in memory to handle system calls and interrupts, providing
QUESTION 6 Which of the following is a characteristic of multi-tasking operating systems?	Correct Answer.+2 Mar
Multi-tasking is only supported in distributed systems.	Only one process is allowed to run at any given time.
The CPU switches between processes very quickly.	O All processes execute simultaneously on the CPU.
EXPLANATION Multi-tasking allows the CPU to switch between multiple processes so quickly that it app	ears they are running simultaneously. This is achieved through context switching.







Which of the following statement can be used to apply the UNIQUE constraint to a colu	mn of an existing table?			
O ALTER TABLE TABLE_NAME ADD UNIQUE;	ALTER TABLE TABLE_NAME ADD UNIQUE (column_name);			
ALTER TABLE TABLE_NAME UNIQUE (column_name);	ALTER TABLE TABLE_NAME ADD (column_name) UNIQUE;			
Choose the correct option regarding the below C variable declarations	Choose the correct option regarding the below C variable declarations			
signed s; unsigned u; long l; long l;				
O Only "unsigned u;" is valid definition of variable.	Only "long I;" and "long long II;" are valid definitions of variables.			
All of the above variable definitions are correct because int is implicitly assumed in all of these.	All of the above variable definitions are incorrect because basic data type int is missing.			
EXPLANATION All of the above variable definitions are correct because int is implicitly assumed in all of these.				
Immunity of the external schemas (or application programs) to changes in the conceptual schema is referred to as:				
O None of the above	O Both (a) and (b)			
Logical Data Independence	O Physical Data Independence			
Immunity is when data at one layer is changed, it does not affect the data at another level. Physical data independence:- if changes are made in the physical storage of schema then it will not affect the logical schema of the database. Logical data independence:- if any changes are made in the conceptual schema then it will not affect external schema or the view level of the database. So, option (B) is correct.				

What will be the output of the following SQL statement? SELECT product_name, CASE WHEN price < 10 THEN 'Cheap' WHEN price BETWEEN 10 AND 20 THEN 'Affordable' ELSE 'Expensive' END AS price_category FROM products;	
Lists products with price categories but without any products priced above 20.	O Throws a syntax error due to incorrect CASE statement.
O Lists only the products that are cheap.	O Lists products with their price categories based on the specified ranges.
QUESTION 13 What will be the output of the following SQL statement? SELECT product_name, CASE WHEN price < 10 THEN 'Cheap' WHEN price BETWEEN 10 AND 20 THEN 'Affordable' ELSE 'Expensive' END AS price_category FROM products;	Correct Answer.+2 Marks
O Lists products with price categories but without any products priced above 20.	O Throws a syntax error due to incorrect CASE statement.
Lists only the products that are cheap.	Lists products with their price categories based on the specified ranges.
This contest is open for practice, you can submit and practice questions, if you attempted the conte QUESTION 14 Which file is generated after pre-processing of a C program?	est you can view your submissions by clicking on "Reveal Answers Button" Correct Answer.+2 Marks
O .out	O .s
i. •	exe
EXPLANATION A *.i file is an output of the C/C++ preprocessor. It is usually this extension which is cha	aracteristic of files created as the preprocessor output.

QUESTION 15	Correct Answer+2 Marks	
If you need to enforce a structure where some methods have a common declaration but defer their actual implementation to future specialized classes, which construct should be used?		
O Data-only class without any methods	O Utility class containing only static methods	
Abstract class or interface with method declarations but no implementations	O Concrete base class with full implementations	
EXPLANATION An abstract class or interface specifies method signatures that subclasses must implen	ment, thus deferring implementation while maintaining a consistent interface.	
Which SQL statement correctly inserts a new row into the "employees" table with columns "	"id", "name", and "department"?	
O INSERT INTO employees (id, name, department) VALUE (101, 'Alice', 'HR');	O INSERT INTO employees VALUES (101, 'Alice', 'HR');	
O INSERT employees INTO (id, name, department) VALUES (101, 'Alice', 'HR');	INSERT INTO employees (id, name, department) VALUES (101, 'Alice', 'HR');	
Which fundamental OOP concept specifically enables creating new classes that reuse p	properties and behaviors of existing classes, facilitating code reuse and extension?	
O Encapsulation	Inheritance	
Polymorphism	O Abstraction	
EXPLANATION Inheritance feature denotes code reusability		
QUESTION 18 Correct Answer.+2 Marks		
What technique allows the simultaneous transmission of multiple signals over a single communication channel, increasing the overall capacity of the channel?		
O Wavelength Division Multiplexing	Code Division Multiplexing	
O Frequency Division Multiplexing	Time Division Multiplexing	
EXPLANATION Time Division Multiplexing (TDM) allows multiple signals to be transmitted over a single communication channel by dividing the channel into time slots, enabling simultaneous transmission		

Among the various constructor types used in object-oriented design to initialize objects, which of the following does not exist as a standard constructor type?			
O Constructor that requires specific parameters to initialize data members	Constructor that dynamically changes behavior at runtime based on object state		
O Constructor that creates a copy of an existing object	O Constructor without parameters		
EXPLANATION A constructor that dynamically changes its behavior at runtime (sometimes called a virtual method behavior, constructors themselves are fixed at compile-time.	constructor) is not part of standard OOP principles. While polymorphism supports dynamic		

Which SQL statement will delete all rows from the "orders" table where the "order_date" is more than one year old?

O DELETE FROM orders WHERE order_date < NOW() - 365 DAYS;

O DELETE FROM orders WHERE order_date < DATE_SUB(NOW(), INTERVAL 1 YEAR);

O DELETE FROM orders WHERE order_date < NOW() - INTERVAL 1 YEAR;

Verbal

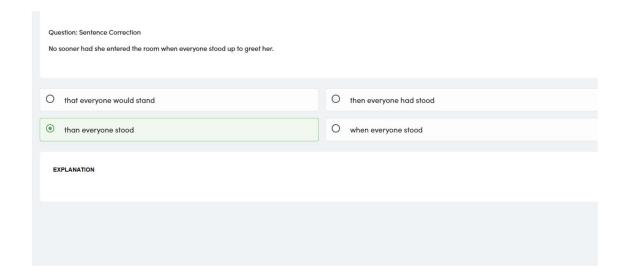


Because of the fact that he was late, the meeting had already started when he arrived.	
O Since he had been late	O Owing to his lateness
Because he was late	O Due to the fact that he was late
Choose the word opposite in meaning to "lucid":	
Choose the word opposite in meaning to "lucid": O Logical	Confusing
Choose the word opposite in meaning to "lucid":	Confusing Vivid

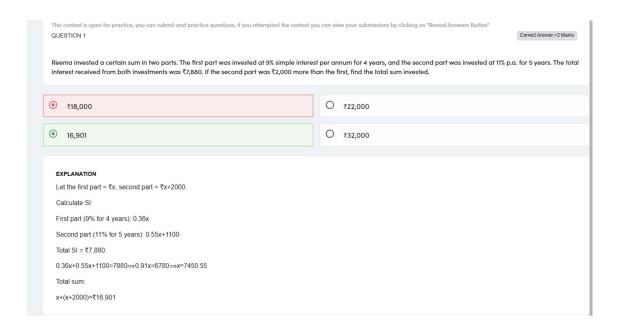
The author's primary intent in the passage is most likely to:	
"The social fabric of urban centers has shifted dramatically in the past two decades, driver beneficial, have also introduced new tensions and inequalities."	n by technology, migration, and evolving economic structures. These changes, while often
O Predict the collapse of urban infrastructure	Acknowledge both progress and issues in urban change
O Critique modern urban planning	O Celebrate urban progress
EXPLANATION	

Choose the word that best completes the sentence: The scientist's explanation was so that even her colleagues struggled to follow her argument.		
0		
O articulate	O concise	
convoluted	O lucid	
EXPLANATION The clue is that even her colleagues struggled to follow. This implies the explanation was complicated or confusing. "Convoluted" means extremely complex and difficult to follow, which fits perfectly.		
Despite the professor's tone, the students were riveted by the lecture, suggesting that delivery was no match for substance.		
O euphoric	O vibrant	
Charismatic	• tedious	
EXPLANATION The contrast indicated by "despite" tells us that the professor's tone was not engaging, yet the lecture was interesting. "Tedious" (boring or dull) best fits this context. The others suggest engaging or lively tones, which wouldn't match the contrast.		

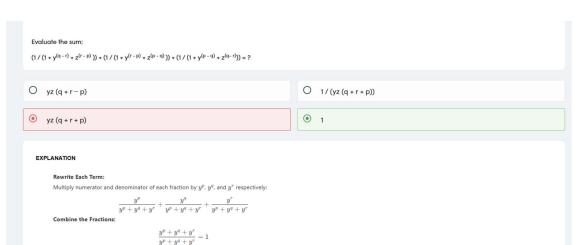
Identify the part with an error: The teacher / along with her students / are planning a field trip / next week.		
O No error	are planning a field trip	
along with her students	O The teacher	
EXPLANATION The subject is The teacher (singular), so it should be is planning not are planning.		
QUESTION 8 Passage: "Recent surveys show that hybrid work models have led to increased employee satisfaction."	Correct Answer.+2 Marks on, but managers are concerned about reduced oversight."	
Which of the following is true according to the passage?		
Hybrid work increases satisfaction but raises managerial concerns.	O Managers are not concerned about anything.	
Employee satisfaction has decreased.	O Hybrid work is universally disliked.	
EXPLANATION		
Question: Sentence Completion (Inference) The manager's remarks were so that even the most seasoned employees felt uncertain about their standing.		
ambivalent	equivocal	
O encouraging	O candid	
EXPLANATION The sentence implies confusion among employees. Equivocal means ambiguous or unclear	ar, fitting the context better than the others.	



QUANT



QUESTION 2	Correct Answer:+2 Mark
in a team project, 5 male engineers and 4 female analysts can jointly complete a task in 8 same task in 10 days. Determine how many days would 10 female analysts alone require to	
22 days	O 20 days
18.4 days	O 16.4 days
Let the rate of work for one male engineer be m and for one female analyst bef. From the first setup: $5m + 4f = 1/8$ From the second setup: $3m + 7f = 1/10$	
Solving this system gives f = 1/184(rate of one female analyst). The total rate for 10 female analysts is 10f = 5/92	
Thus, the time required for 10 female analysts to complete the task is $92/5 = 18.4$ days.	



I his contest is open for practice, you can submit and practice questions, it you attempted the cont QUESTION 4	rest you can view your submissions by clicking on "kevedi Answers button" Correct Answer.+2	
A basketball player has played 12 games, and his average points scored per game is 22. To increase his average by 5 points, how many points must he score in his next game?		
O 98	87	

Correct Answer:+2 Marks

EXPLANATION

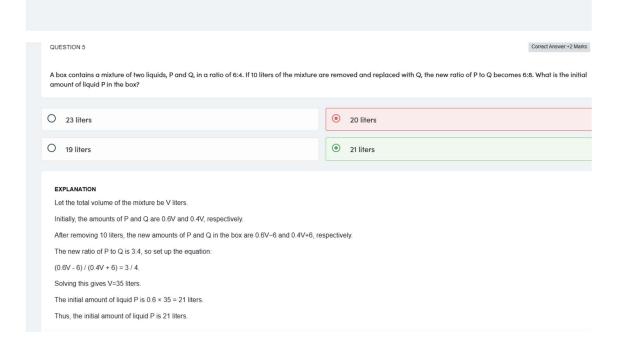
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The total points scored after 12 games is $22 \times 12 = 264$.

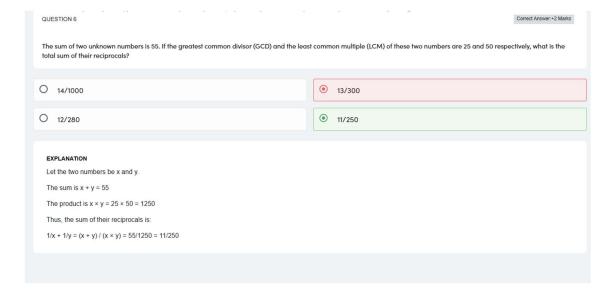
To increase his average by 5 points, his new average should be 22 + 5 = 27.

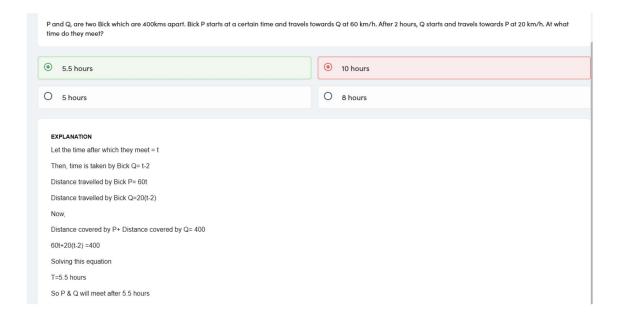
For 13 games, the total points required would be $27 \times 13 = 351$.

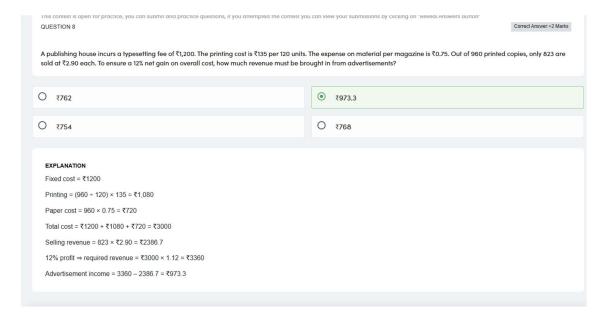
Thus, the points required in the next game are 351 - 264 = 87.



O 72







When the polynomial $x^5 - 2x^4 + 8x^3 - 15x + 35$ is divided by (x-1), find the remainder.	
O 35	27
O 12	O 8
EXPLANATION To find the remainder, we apply the Remainder Theorem, which states that the remainder when a polynomial is divided by $(x-a)$ is $P(a)$, where $P(x)$ is the polynomial. Here, substitute $x=1$ into the polynomial: $P(1) = 1^5 - 2(1^4) + 8(1^3) - 15(1) + 35 = 27.$ Therefore, the remainder is 27.	
QUESTION 10 A person is tasked with distributing identical items among a certain number of boxes. If number of items. If each box originally contained 60 items, how many boxes were initial	Correct Answer+2 Marks he places 15 fewer items per box, he can fill 4 additional boxes without exceeding the total
QUESTION 10 A person is tasked with distributing identical items among a certain number of boxes. If number of items. If each box originally contained 60 items, how many boxes were initial	Correct Answer +2 Marks the places 15 fewer items per box, he can fill 4 additional boxes without exceeding the total by assigned?
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