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Sahi Prep Hai Toh Life Set Hai

HCF & LCM-2

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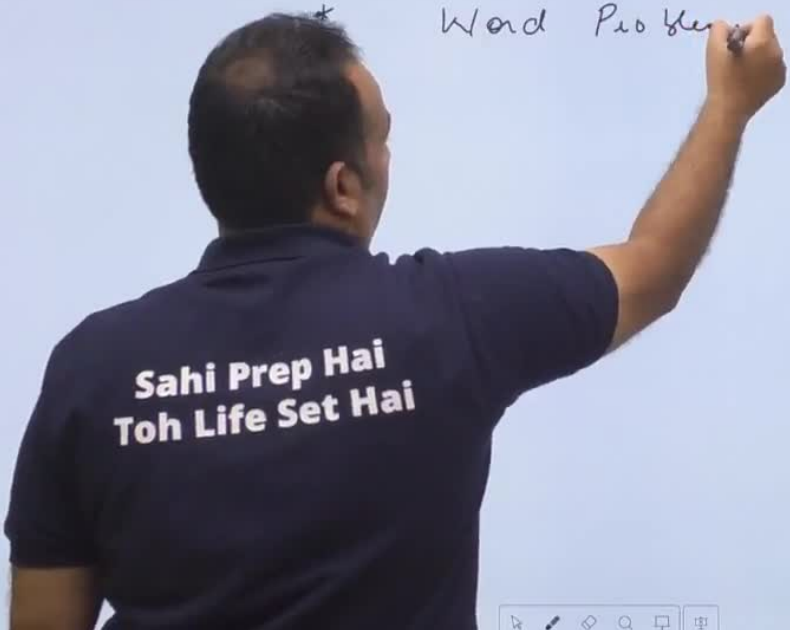
Agenda

* Word Problems



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Agenda

* Word Problems on HCF & LCM

HCF & LCM with

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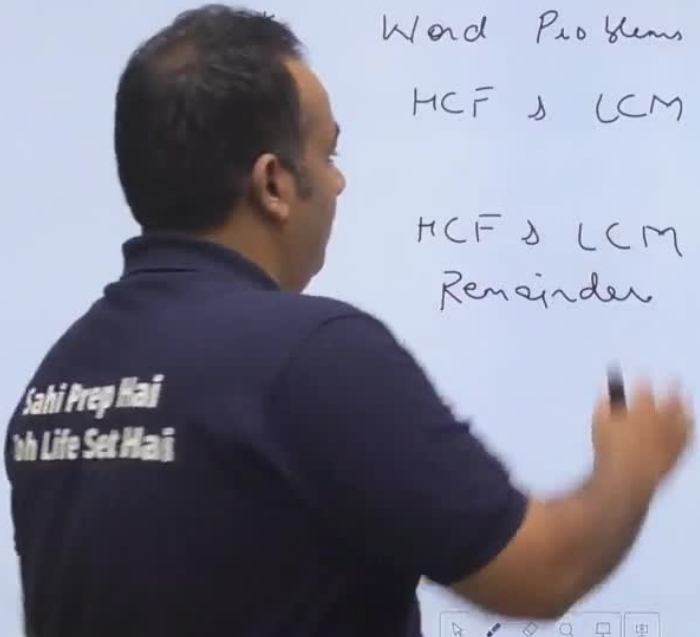
Agenda

Word Problems on
HCF & LCM

HCF & LCM with
Remainder



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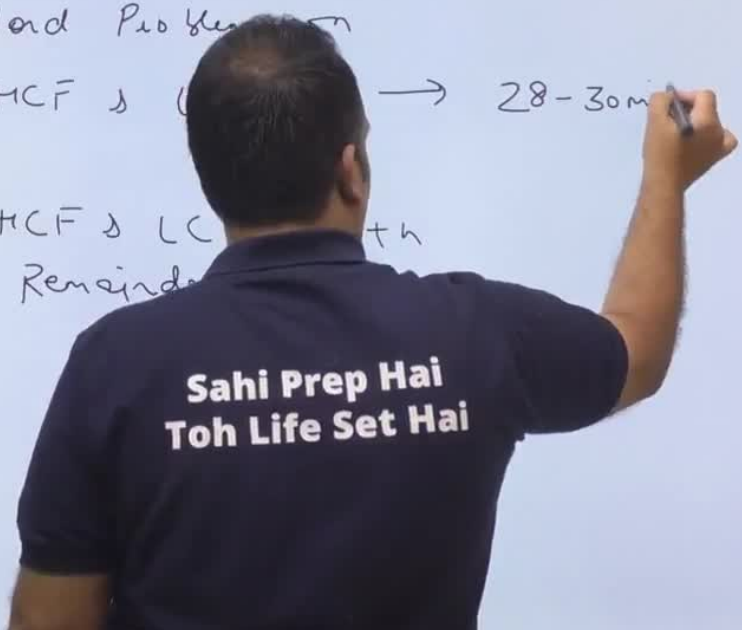
Agenda

* Word Problems
  HCF & LCM → 28-30 Min

* HCF & LCM
  Remainder



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Agenda

* Word Problems on
  HCF ... → (28-30 min)

* HCF ... with
  Re... → 3...

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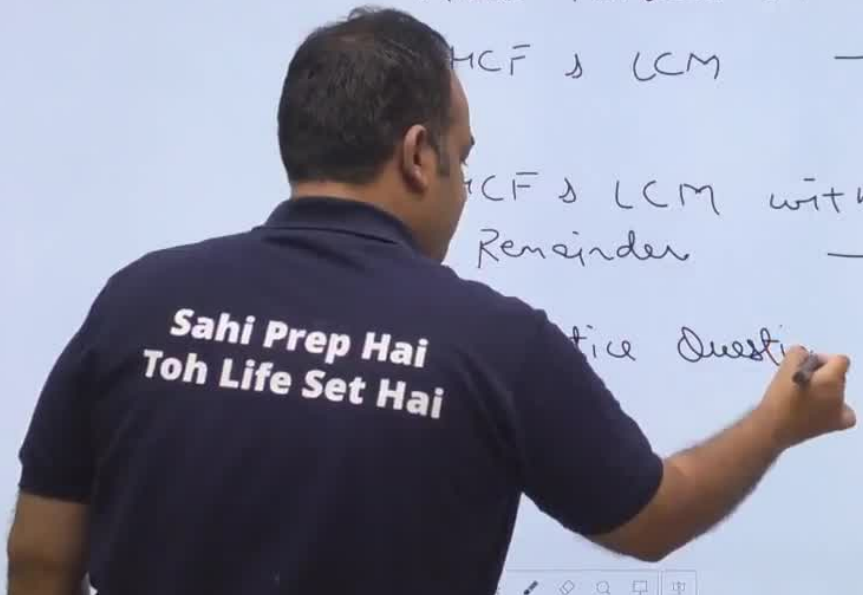
Agenda

* Word Problems on
  HCF & LCM → (28-30 min)
  HCF & LCM with
  Remainder → (30-32) min
  tice Questi



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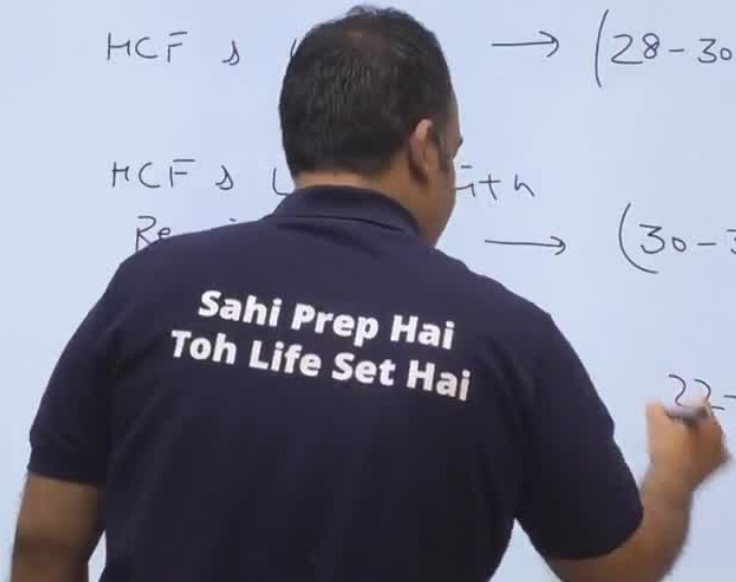
Agenda

* Word Problems on
  HCF & [illegible] → (28-30 min)

* HCF & [illegible]ith
  Re[illegible] → (30-32) min



22-24)

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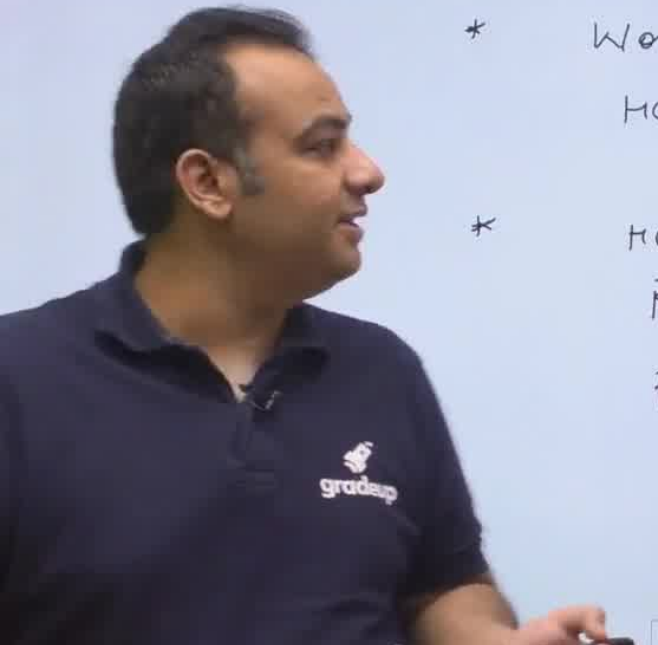
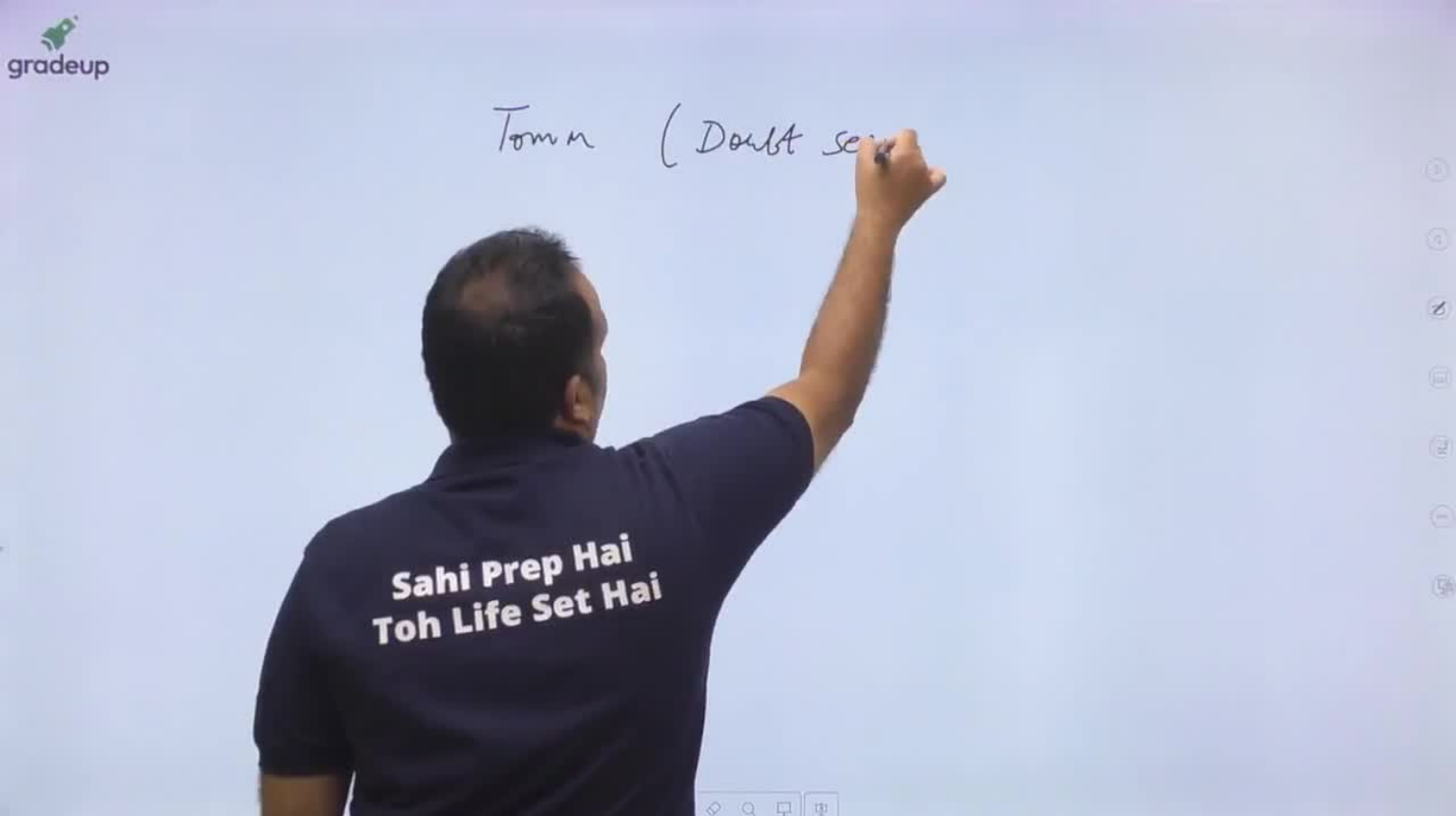
Agenda

* Word Problems on HCF & LCM → (28-30 min)

* HCF & LCM with Remainder → (30-32) min

Practice Question (7-8)Q → (22-24) min

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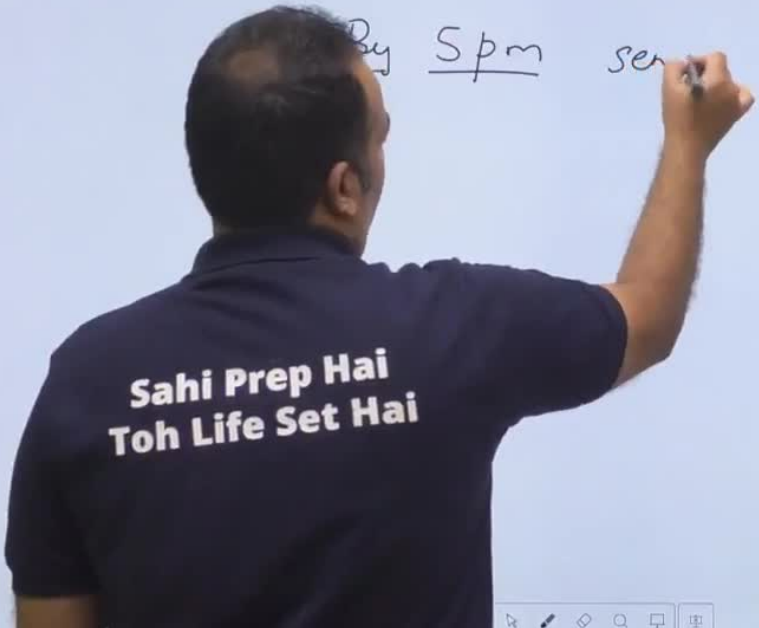
Sahi Prep Hai
Toh Life Set Hai

Tomm (Doubt session)

By 5pm ser



gradeup

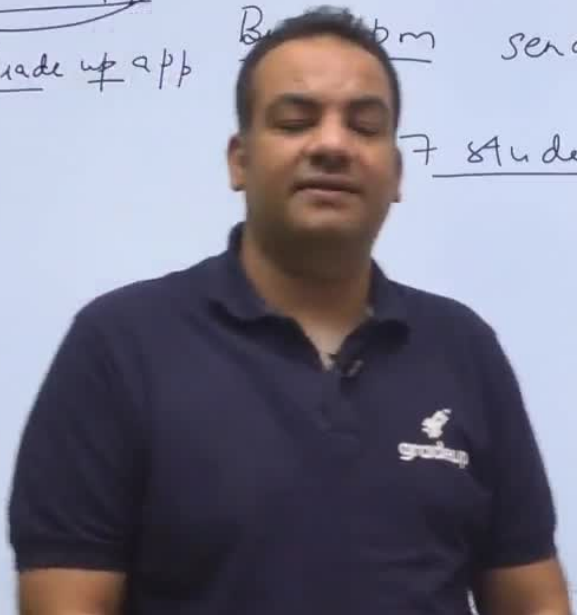
Tomm (Doubt session)

→ Whats app

→ Grade up app

B[illegible]m send your doubts

7 students



Tomm (Doubt session)

→ Whats app

→ Grade up app

Be send your doubts

Students

gradeup

Tomm (Doubt session)

→ Whats app

→ Grade

By 5pm send your doubts

Only 7 students

gradeup

Tomm (Doubt session)

→ Whats app

→ Grade up app

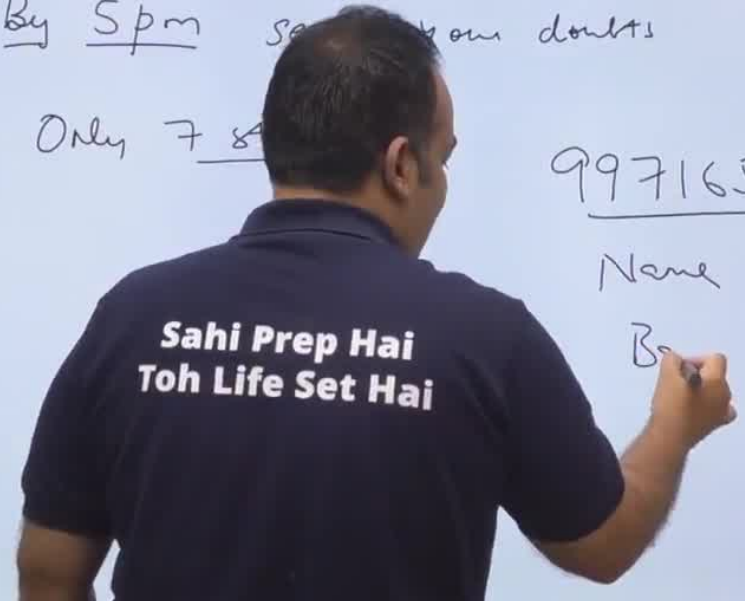
By 5pm se[illegible] doubts

Only 7 s[illegible]

9971658659

Name

B[illegible]



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Tomm (Doubt session)

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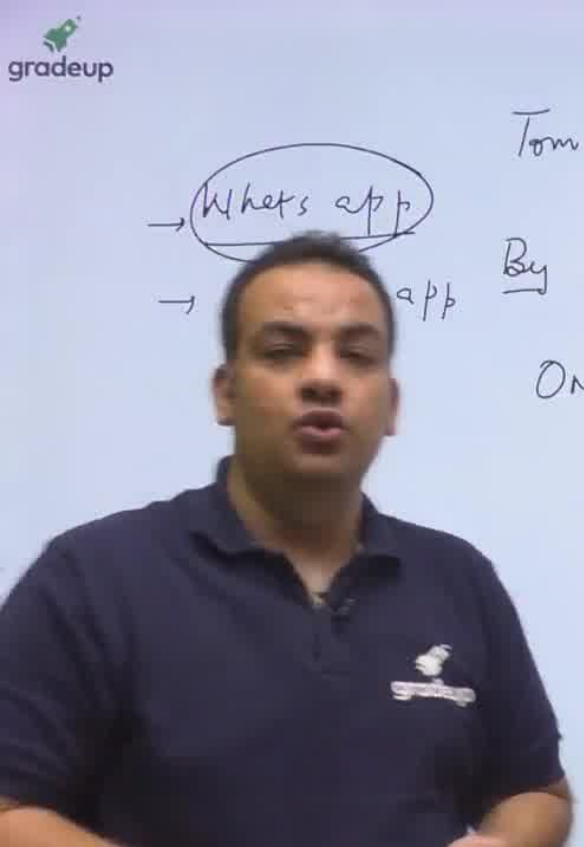
By 5pm send your doubts

Only 7 students

9971658659

Name

Batch Tim



Tomm (Doubt session)

→ Whats app

→ Grade up app

send your doubts

students

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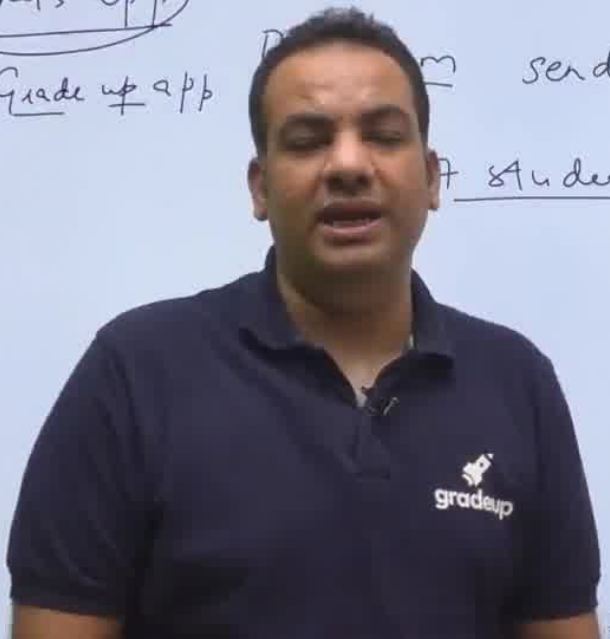
Name

Batch Tim



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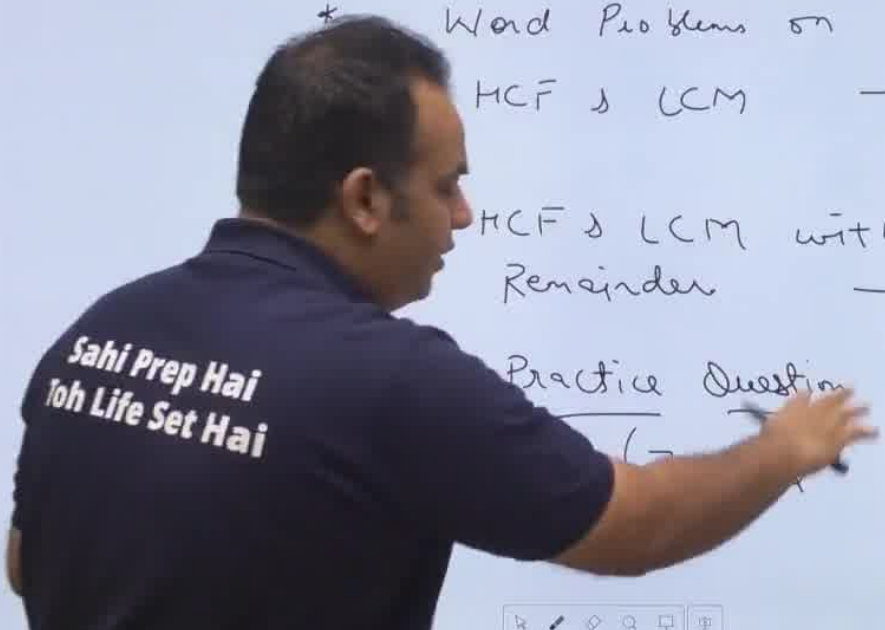
Agenda

* Word Problems on
  HCF & LCM → (28-30 min)

  HCF & LCM with
  Remainder → (30-32) min

  Practice Questions
  → (22-24) min



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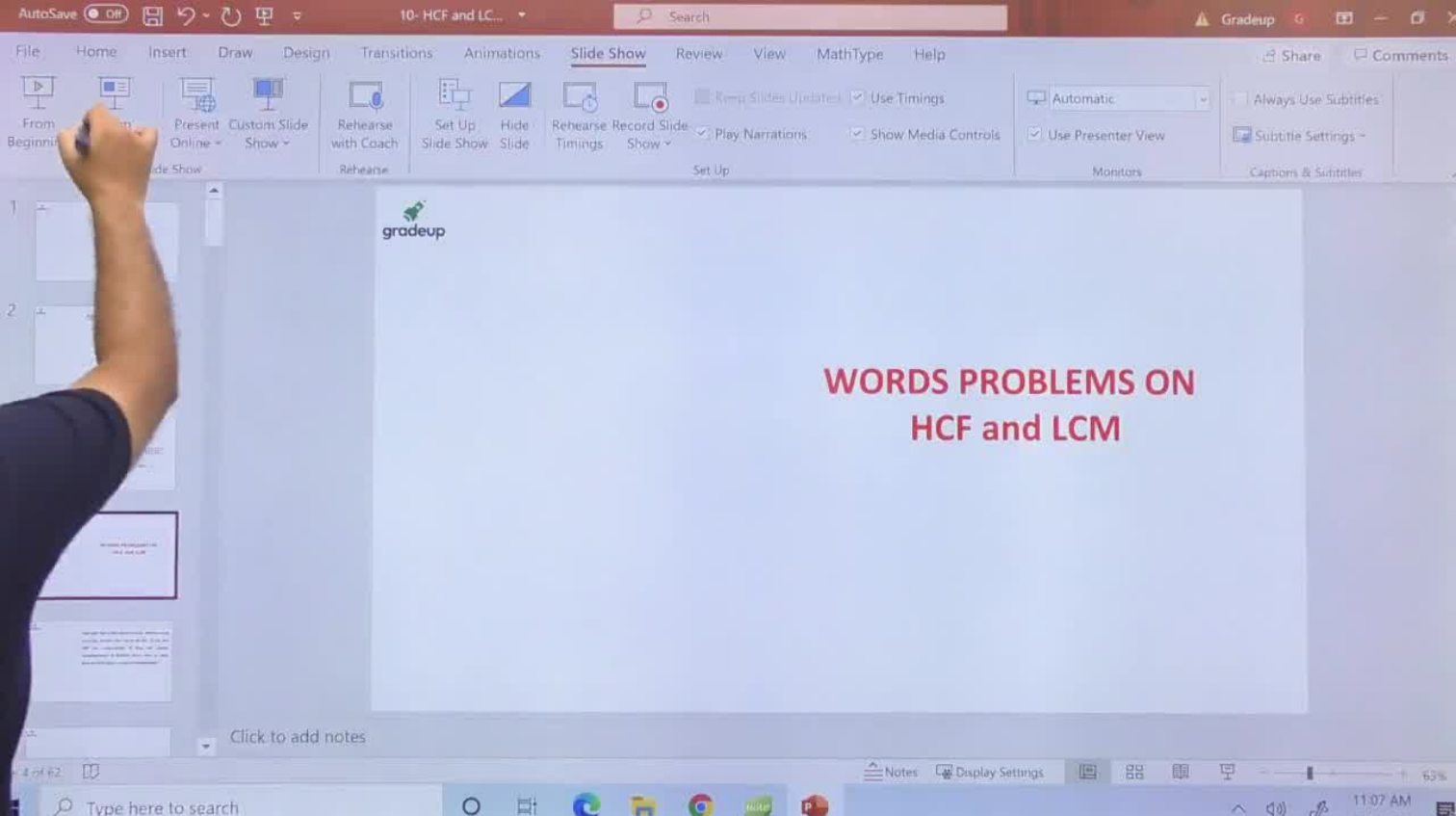
WORDS PROBLEMS ON HCF and LCM


AutoSave
10- HCF and LC...
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Transitions
Animations
Slide Show
Review
View
MathType
Help
Share
Comments
From Beginning
Present Online
Custom Slide Show
Rehearse with Coach
Set Up Slide Show
Hide Slide
Rehearse Timings
Record Slide Show
Keep Slides Updated
Use Timings
Play Narrations
Show Media Controls
Automatic
Use Presenter View
Always Use Subtitles
Subtitle Settings
Set Up
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WORDS PROBLEMS ON
HCF and LCM
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Notes
Display Settings
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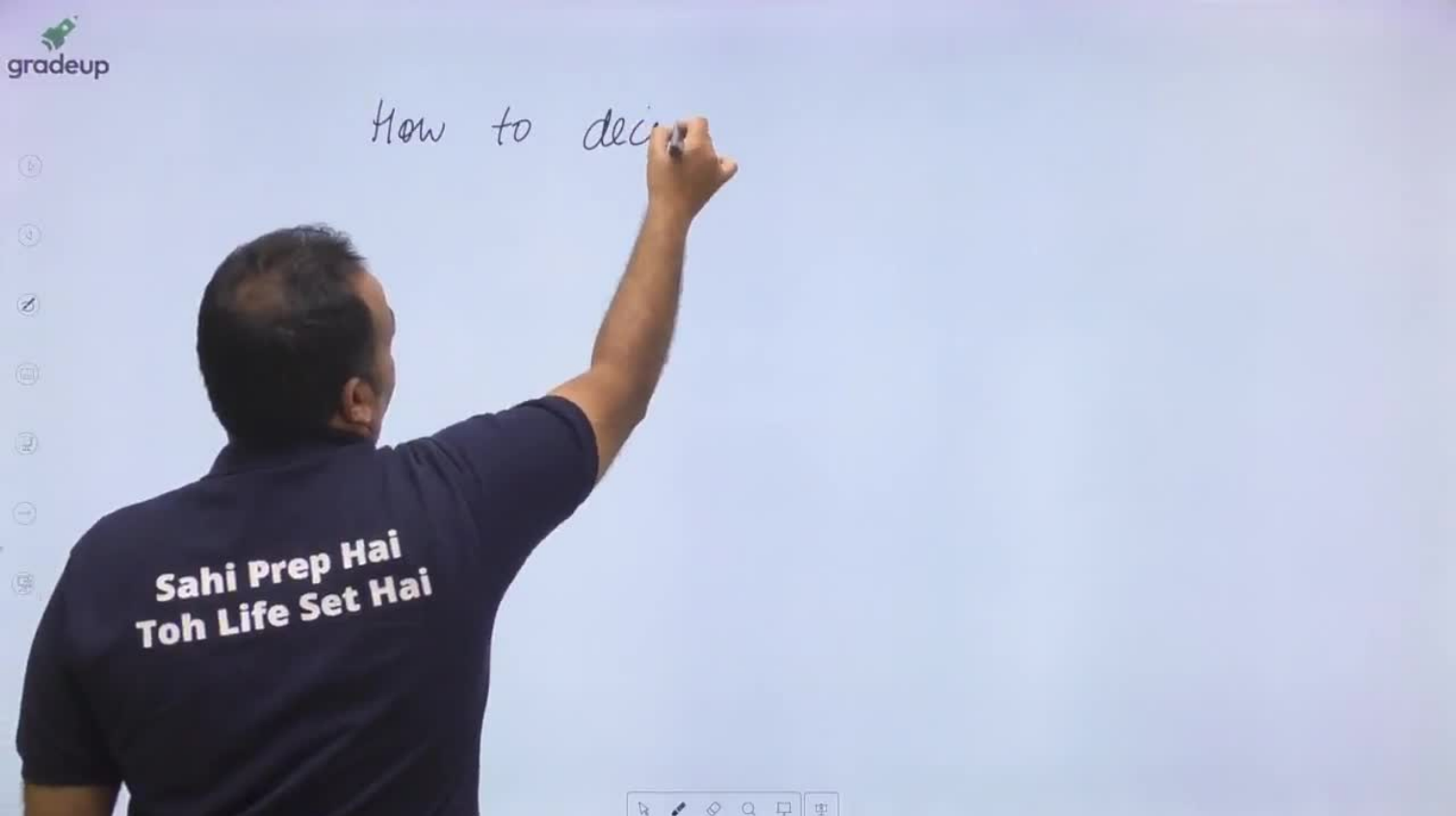
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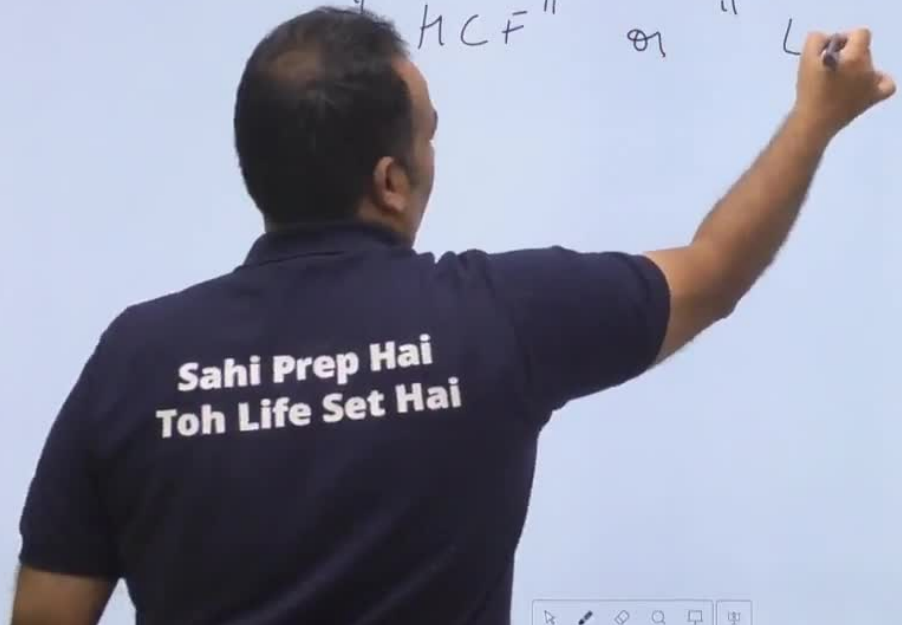
How to decide whether question is on

"HCF" or "L



How to decide whether question is on

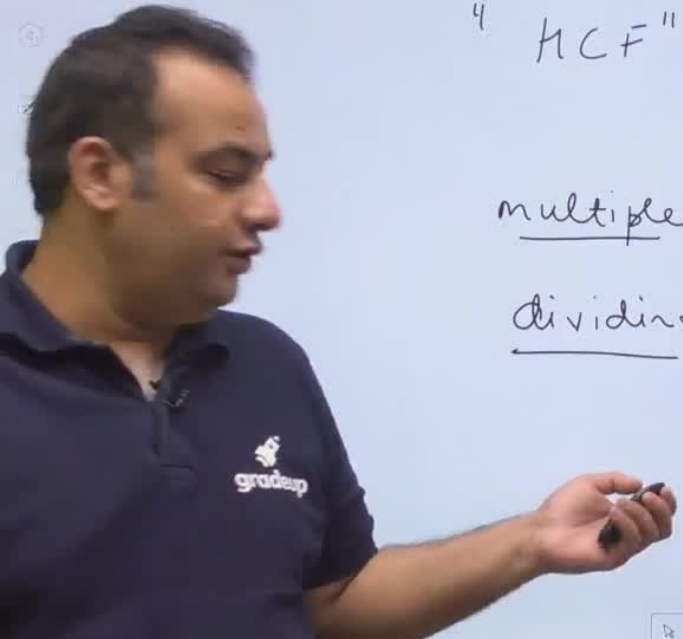
"[illegible]" or "L(M)"

[illegible] → L

How to decide whether question is on "HCF" or "LCM"

multiples → LCM

dividing → HCF



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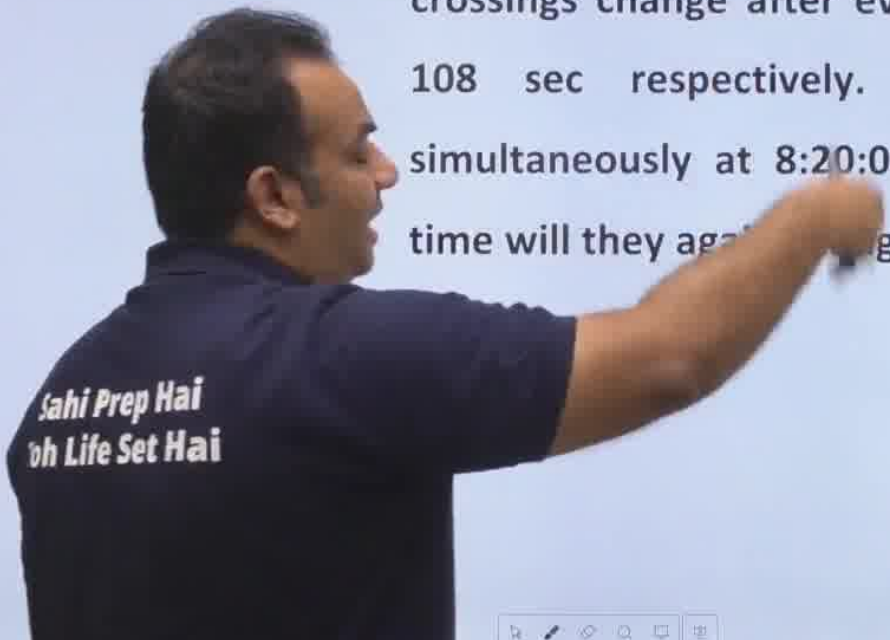
Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change simultaneously at 8:20:00 hours, than at what time will they ag ge simultaneously?



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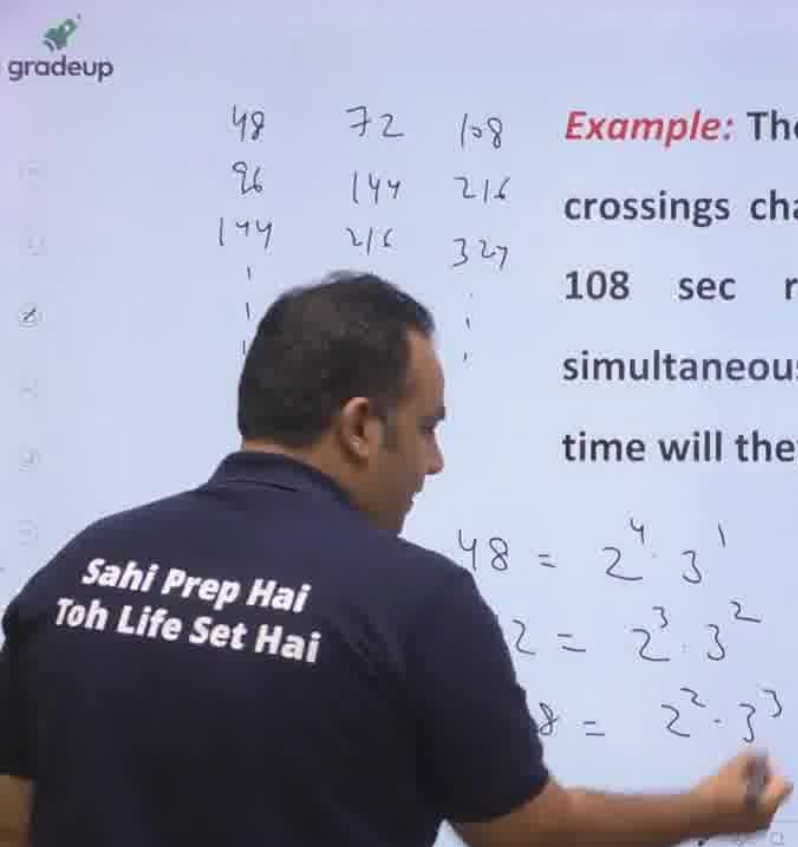
48 72 108
96 144 216
144 216 324

Example: **The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change simultaneously at 8:20:00 hours, than at what time will they again change simultaneously?**

$48 = 2^4 \cdot 3^1$

$72 = 2^3 \cdot 3^2$

$108 = 2^2 \cdot 3^3$



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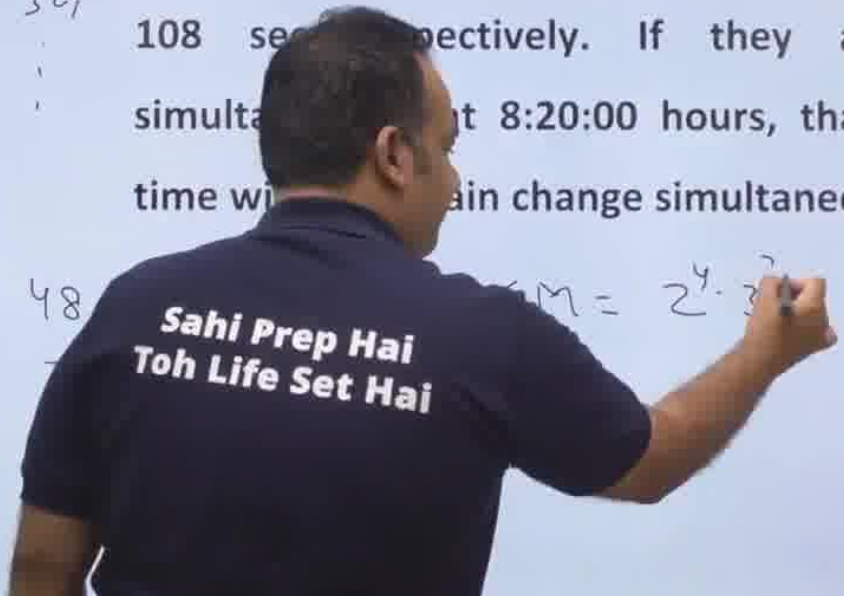
48 72 108
96 144 216
144 216 324

Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change simultaneously at 8:20:00 hours, than at what time will they again change simultaneously?

48 = $2^4 \cdot 3$



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48 72 108
96 144 216
144 216 324
⋮ ⋮ ⋮
⋮ ⋮ ⋮
⋮ ⋮ ⋮

Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and [illegible] respectively. If they all change [illegible]ously at 8:20:00 hours, than at what [illegible]they again change simultaneously?

LCM = [illegible] 3^3

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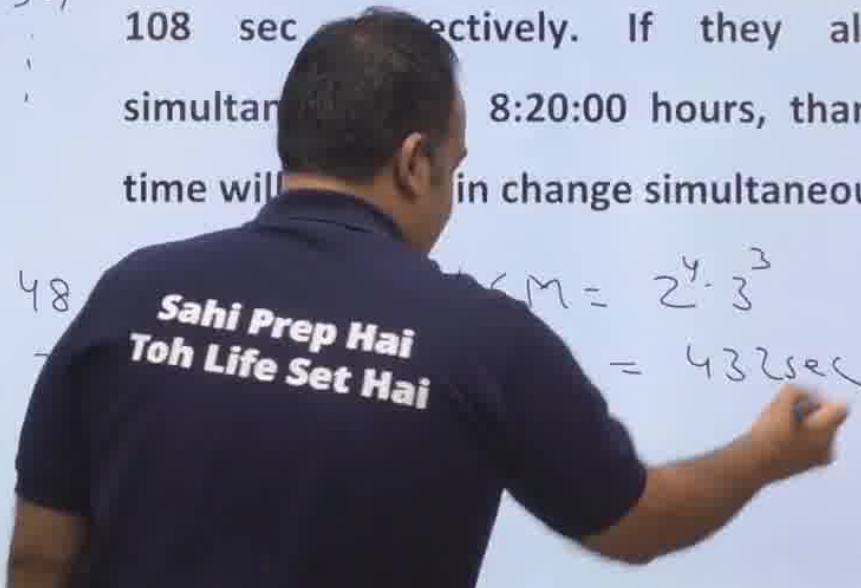
48 72 108
96 144 216
144 216 324
⋮ ⋮ ⋮
⋮ ⋮ ⋮
⋮ ⋮ ⋮

Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec ectively. If they all change simultan 8:20:00 hours, than at what time wil in change simultaneously?

48 LCM = $2^4 \cdot 3^3$

= 432sec



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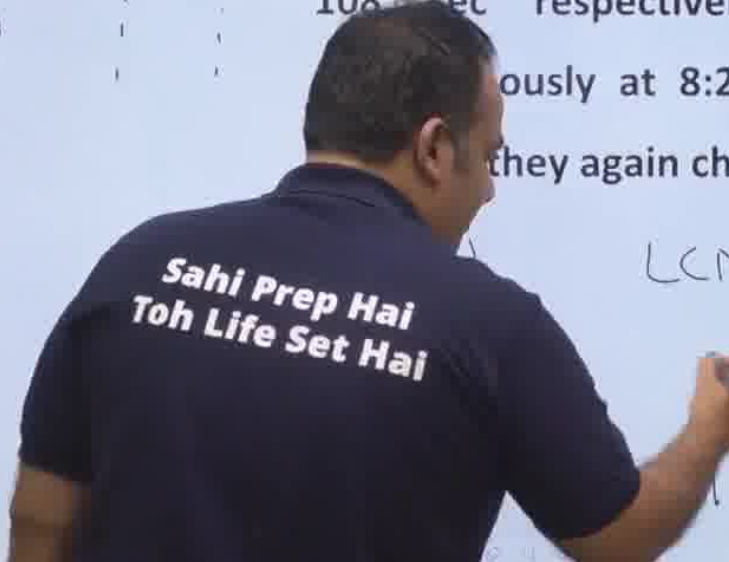
48 72 108
96 144 216
144 216 324

Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change ously at 8:20:00 hours, than at what they again change simultaneously?

LCM = $2^4 \cdot 3^3$

= 432sec

32



gradeup

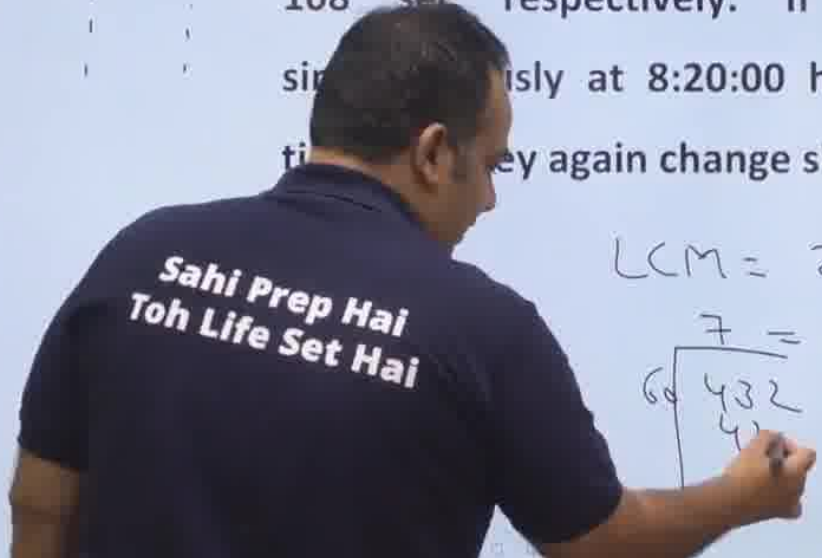
48 72 108
96 144 216
144 216 324
⋮ ⋮ ⋮
⋮ ⋮ ⋮
⋮ ⋮ ⋮

Example: The traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change simultaneously at 8:20:00 hours, than at what time they again change simultaneously?

$LCM = 2^4 \cdot 3^3$

$= 432$ sec

6 | 432
4



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Answer: Traffic lights change after every 48, 72 and 108 sec

So all the traffic lights will simultaneously change after

LCM of 48, 72 and 108 sec = 432 sec

$48 = 2^4 \times 3^1$

$72 = 2^3 \times 3^2$

$108 = 2^2 \times 3^3$

LCM of 48, 72 and 108 $= 2^4 \times 3^3 = 432$

432 sec = 7 min 12 sec

Next simultaneously change will take place at 8:27:12 hours

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Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?

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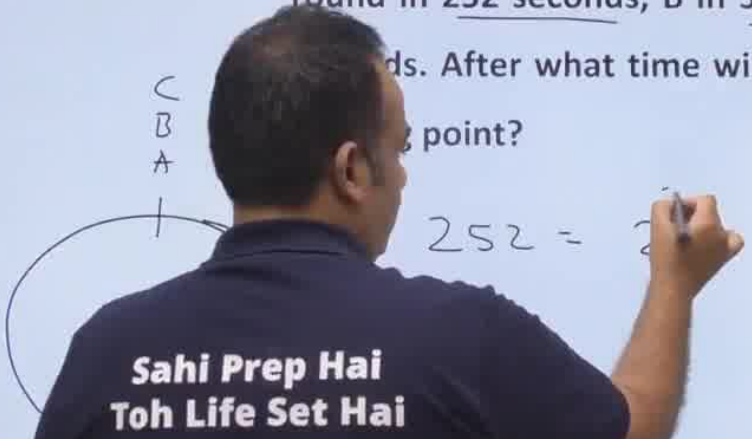

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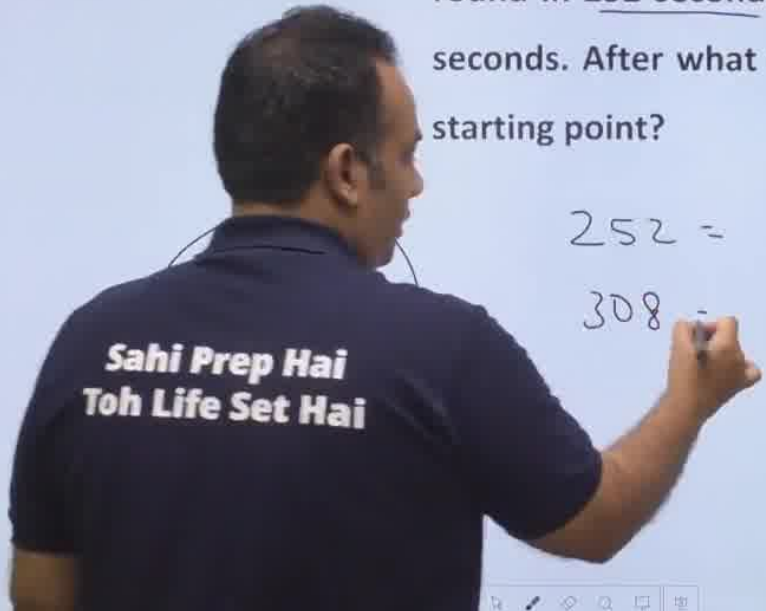
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?

$252 = 2^2 \; 3^2 \; 7^1$

$308 =$



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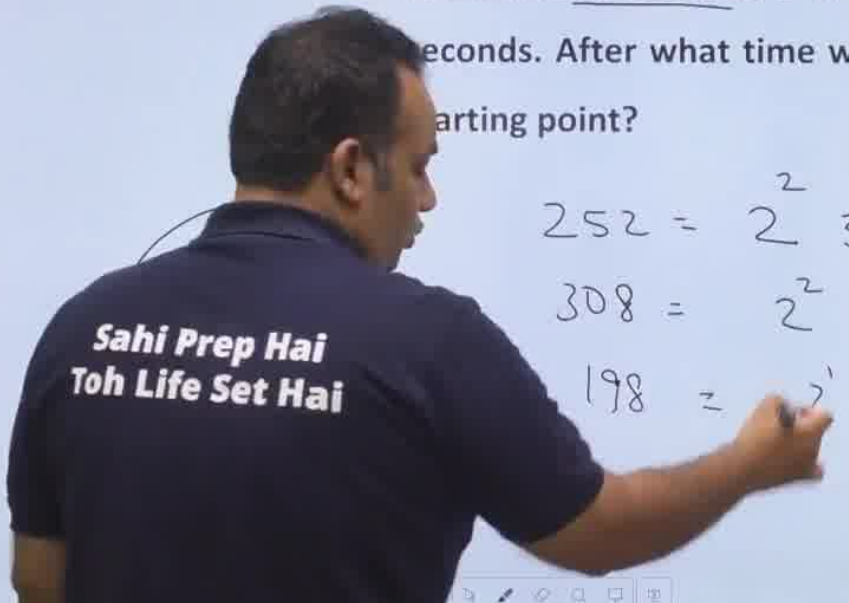
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?

$252 = 2^2 \, 3^2 \, 7^1$

$308 = 2^2 \quad 7^1 \cdot 11$

$198 = 2^1 \cdot 3^2 \cdot 11^1$



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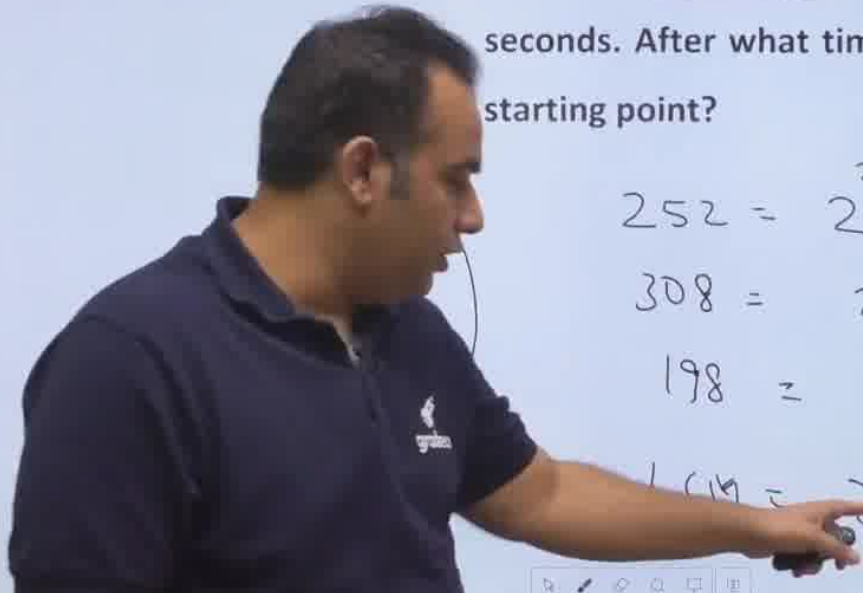
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?

$252 = 2^2 \cdot 3^2 \cdot 7^1$

$308 = 2^2 \cdot 7^1 \cdot 11$

$198 = 2^1 \cdot 3^2 \cdot 11^1$

$LCM = 2^2 \cdot 3^2 \cdot 7^1 \cdot 11^1$



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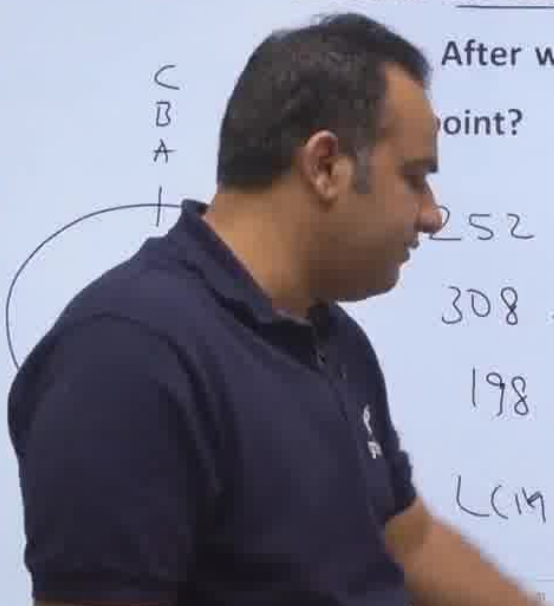
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the same point?



$252 = 2^2 \, 3^2 \, 7^1$

$308 = 2^2 \quad 7^1 \cdot 11$

$198 = 2^1 \cdot 3^2 \quad 11^1$

$LCM = 2^2 3^2 7^1 \cdot 11^1$

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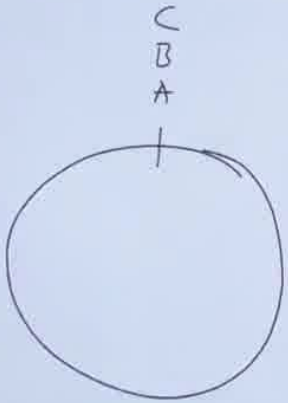
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?



252 =

7 · 11

11

-72

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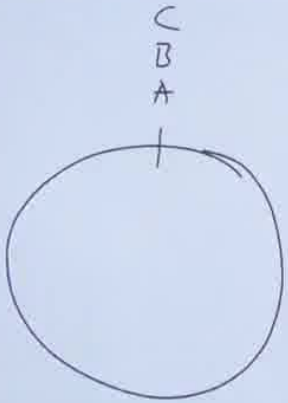
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?



252 = 2

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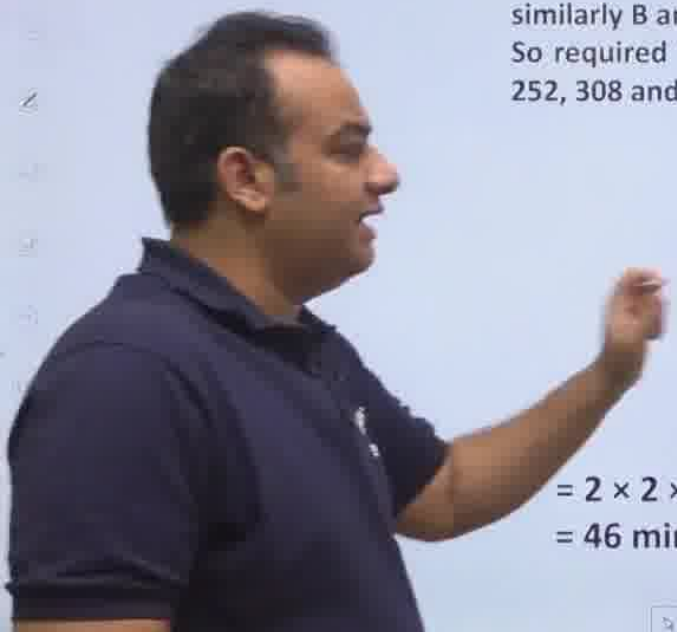
Answer: As A, B, C all running along a circular track from the same point and at same time.

So A will reach at its starting point always after a multiple of 252 seconds similarly B and C after multiples of 308 and 198 seconds.

So required time for all of them to meet at the starting point is LCM of 252, 308 and 198 seconds

2	252, 308, 198
2	126, 154, 99
3	63, 77, 99
3	21, 77, 33
7	7, 77, 11
11	1, 11, 11
	1 1 1



$= 2 \times 2 \times 3 \times 3 \times 7 \times 11 = 2772 = 2772$ seconds

$= 46$ minutes 12 seconds

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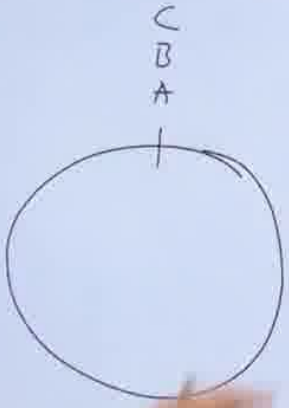
Example: A, B, C start running at the same time and at the same point in a circular stadium. A complete a round in 252 seconds, B in 308 seconds and C in 198 seconds. After what time will they meet again at the starting point?

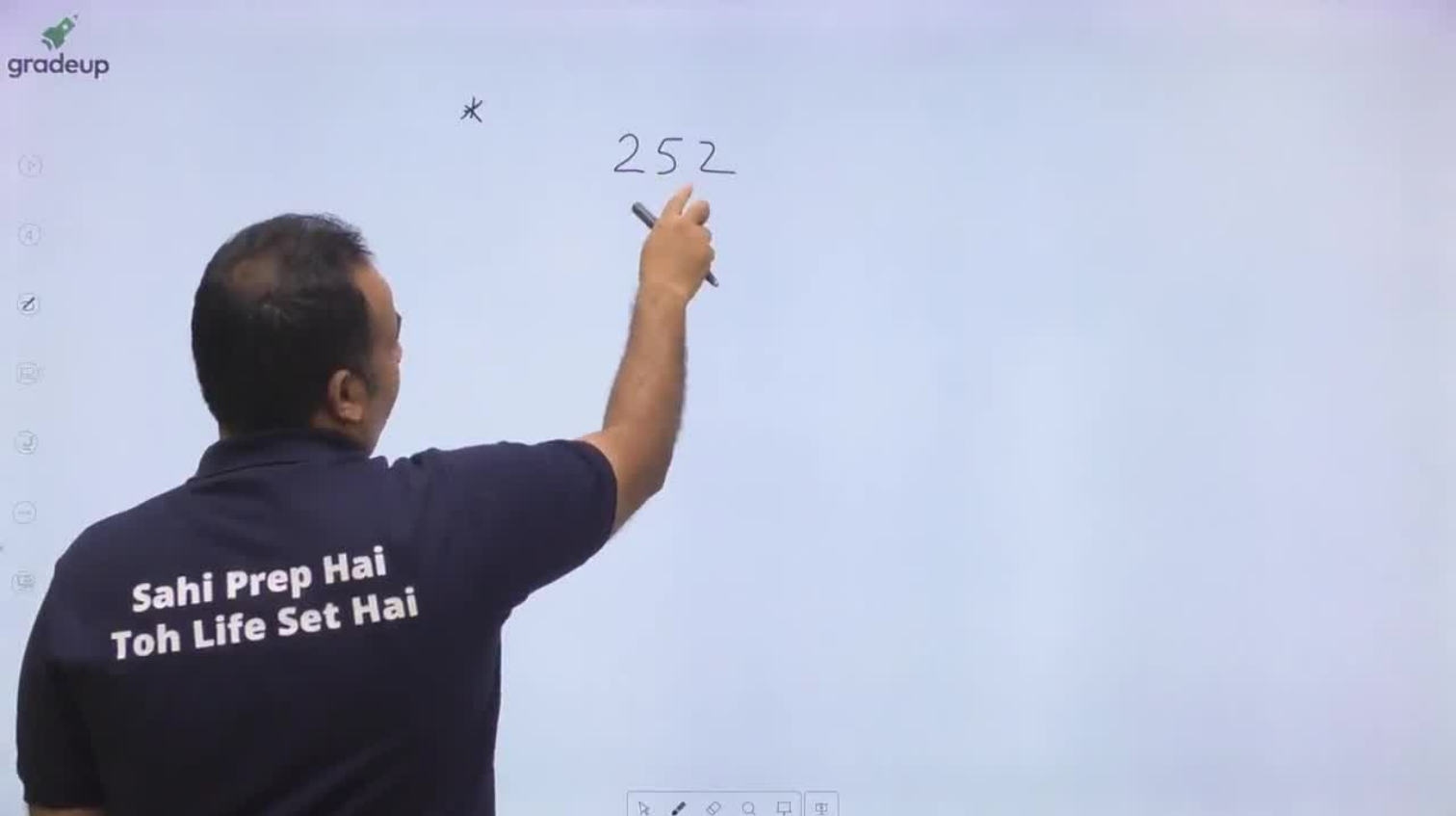


$252 = 2^2 \cdot 3^2 \cdot 7^1$

$308 = 2^2 \cdot 7^1 \cdot 11$

$198 = 2^1 \cdot 3^2 \cdot 11^1$

$LCM = 2^2 \cdot 3^2 \cdot 7^1 \cdot 11^1 = 2772$ sec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252
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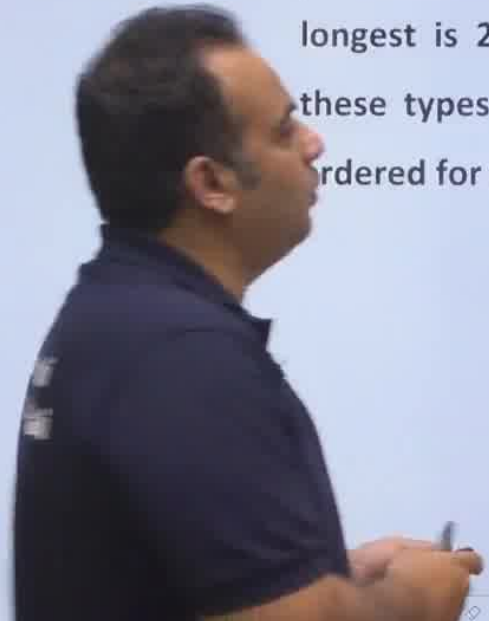
Example: A certain type of board is sold in lengths of multiples of 2 feet. The shortest board sold is 6 ft and the longest is 24 feet. A builder needs a large quantity of these types of board in 5½ feet. Find the length to be ordered for which the waste is minimum.



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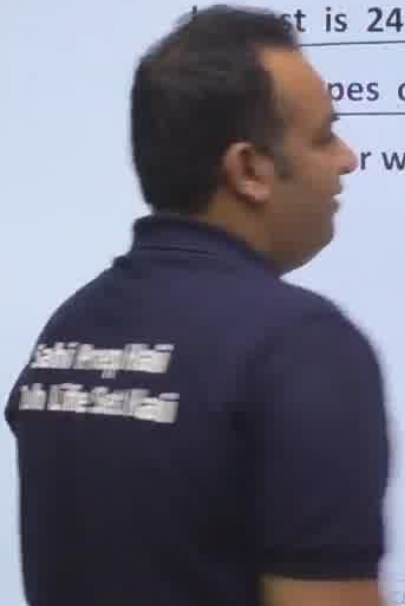
Example: A certain type of board is sold in lengths of multiples of 2 feet. The shortest board sold is 6 ft and the longest is 24 feet. A builder needs a large quantity of pieces of board in 5½ feet. Find the length to be cut for which the waste is minimum.



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Ans: As the boards are sold in multiples of 2 feet and shortest board sold is 6 feet and longest board sold is 24 feet.

So board size that can be sold is

6, 8, 10, 12, ...20 , 22, 24

And the builder wants that the size of the board should be a multiple of 5½ ie 5½, 11, 16½, 22

So for minimum waste the size should be a number which is a multiple of 2 and 5½ both

LCM of 2 and 5½

$$\text{LCM of } \frac{2}{1} \text{ and } \frac{11}{2} = \frac{\text{LCM of 2 and 11}}{\text{HCF of 1 and 2}} \Rightarrow \frac{22}{1} \Rightarrow 22$$

So length of the board to be ordered for minimum waste is 22 feet

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Ans: As the boards are sold in multiples of 2 feet and shortest board sold is 6 feet and longest board sold is 24 feet.

So board size that can be sold is

6, 8, 10, 12, ...20 , 22, 24

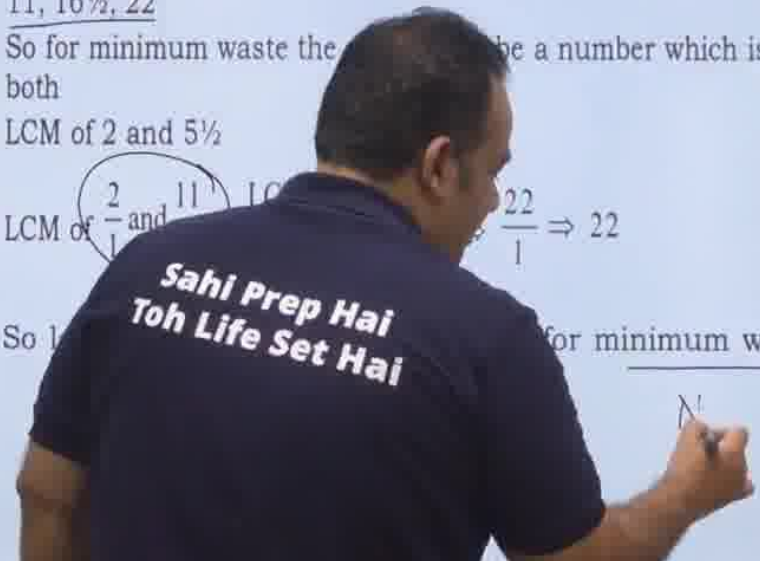
And the builder wants that the size of the board should be a multiple of 5½ ie 5½, 11, 16½, 22

So for minimum waste the [illegible] be a number which is a multiple of 2 and 5½ both

LCM of 2 and 5½

LCM of $\frac{2}{1}$ and $\frac{11}{2}$ [illegible] $\frac{22}{1} \Rightarrow 22$

So [illegible] for minimum waste is 22 feet



gradeup

Ans: As the boards are sold in multiples of 2 feet and shortest board sold is 6 feet and longest board sold is 24 feet.

So board size that can be sold is

6, 8, 10, 12, ...20 , 22, 24

And the builder wants that the size of the board should be a multiple of 5½ ie 5½, 11, 16½, 22

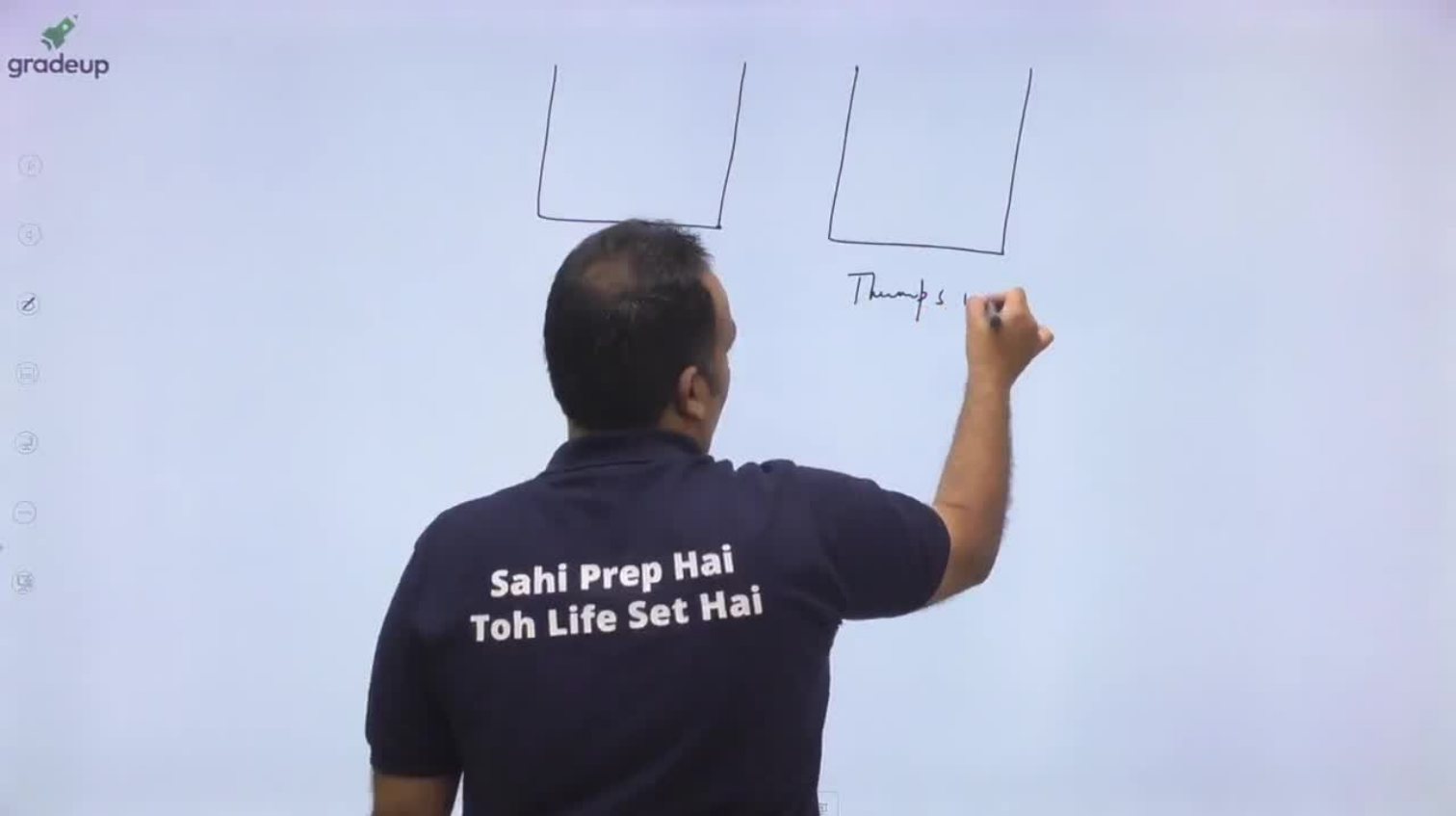
So for minimum waste the size ... number which is a multiple of 2 and 5½ both

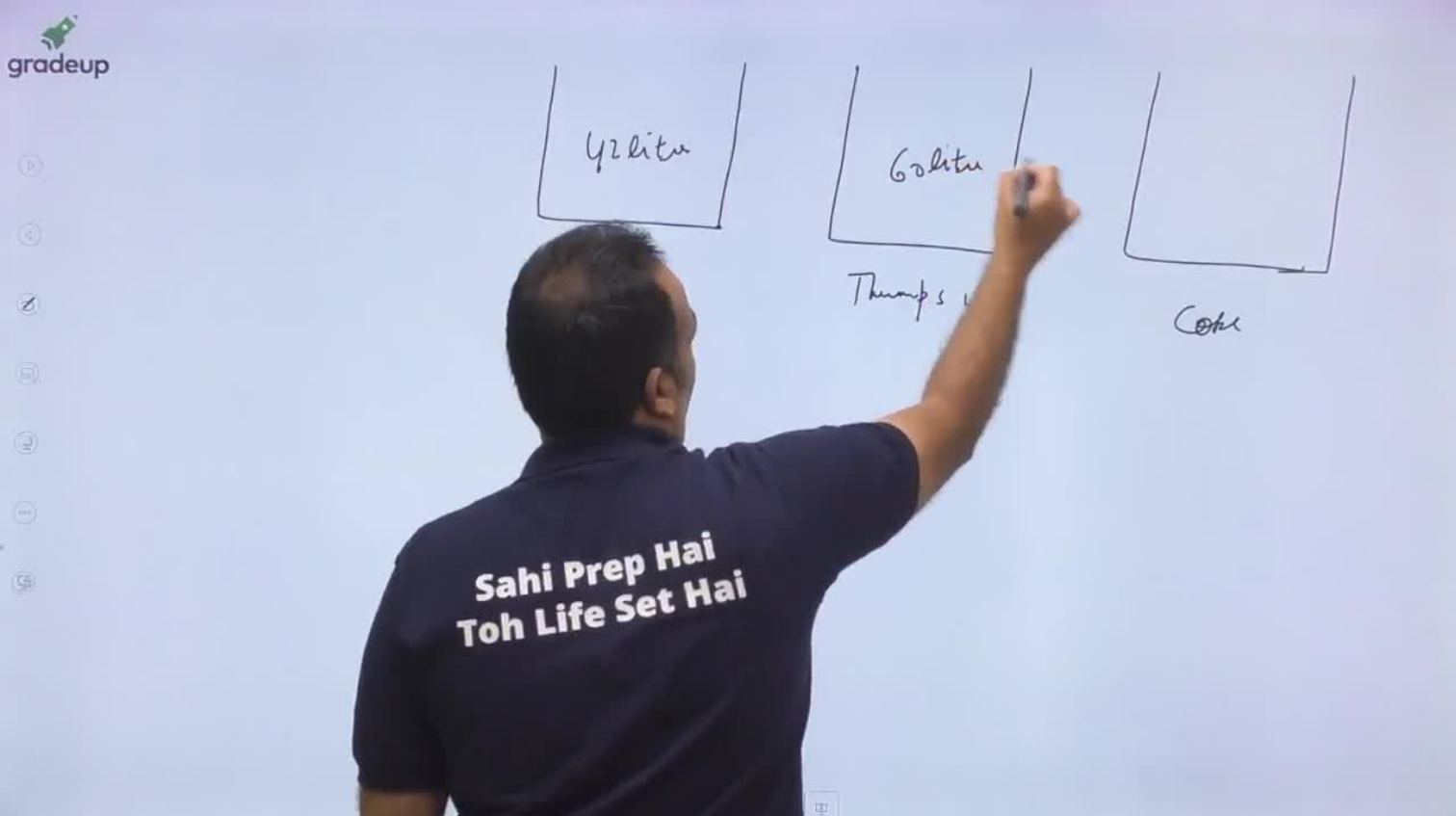
LCM of 2 and 5½

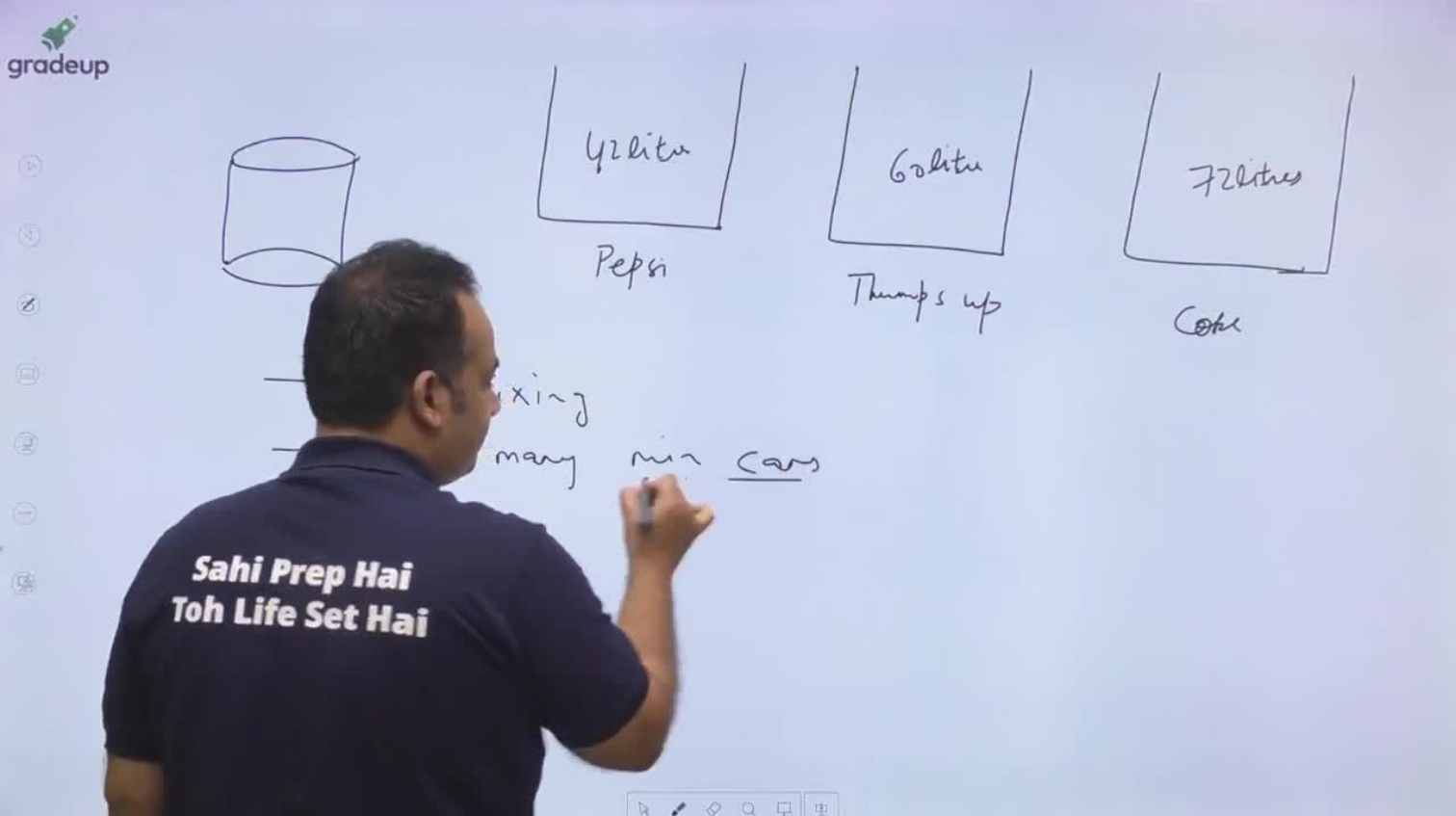
LCM of $\frac{2}{1}$ and $\frac{11}{2}$ = LCM ... $\frac{}{1} \Rightarrow 22$

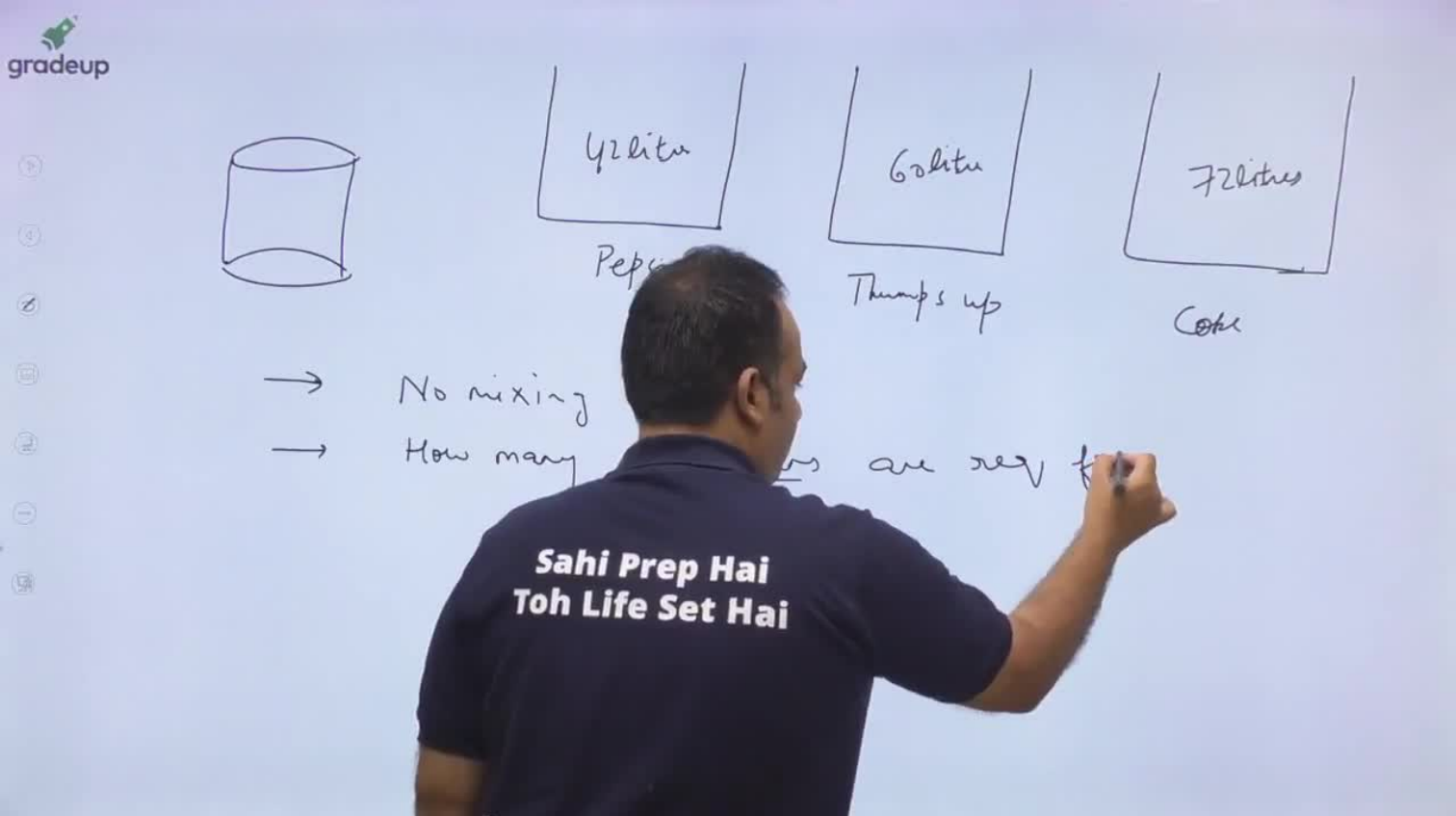
So len... minimum waste is 22 feet

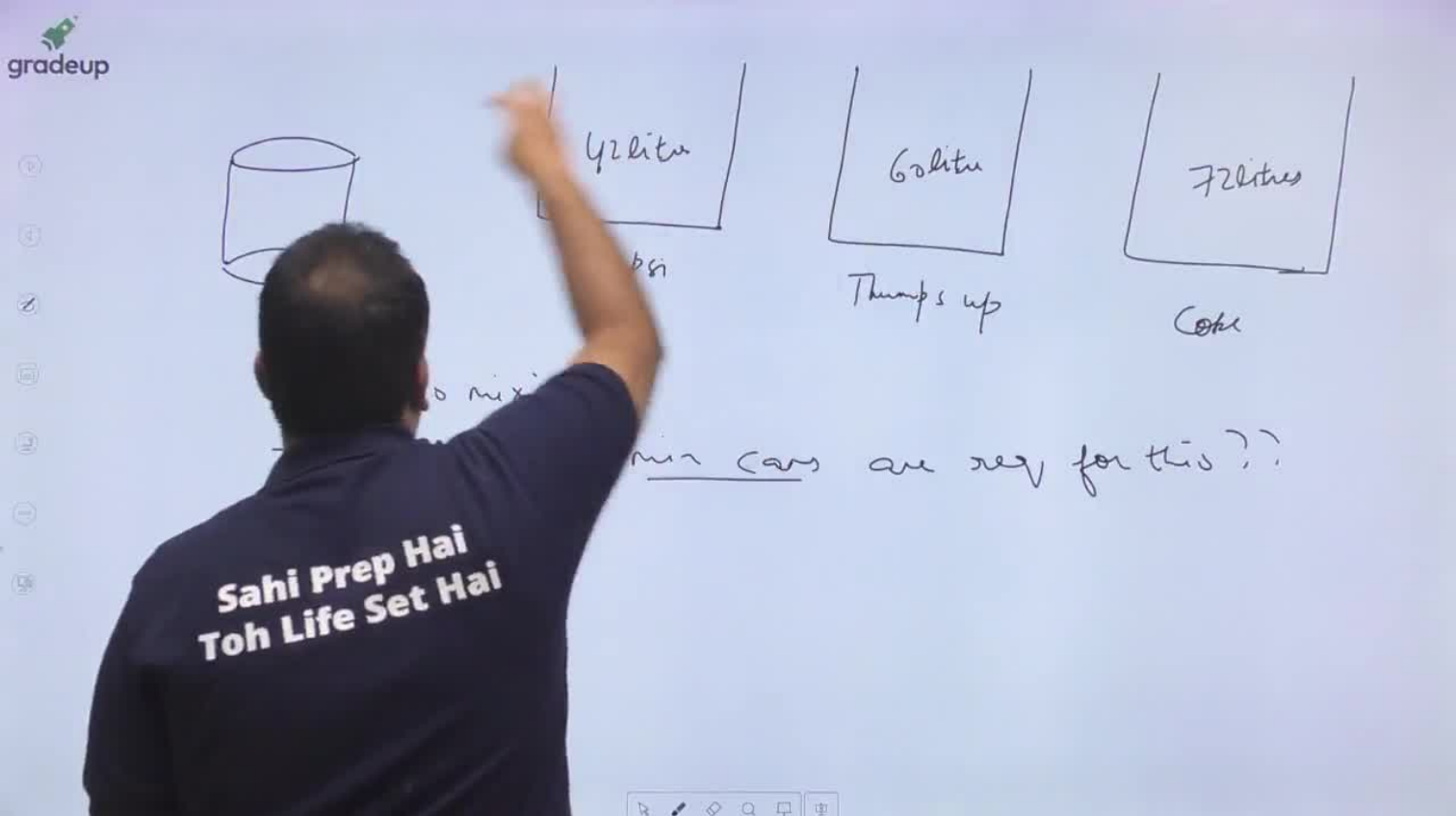
No waste


gradeup
Sahi Prep Hai
Toh Life Set Hai

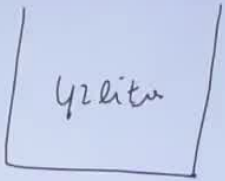

gradeup
Sahi Prep Hai
Toh Life Set Hai

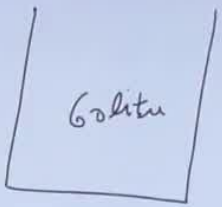

gradeup
42litre
Pepsi
60litre
Thumps up
72litres
Coke
Sahi Prep Hai
Toh Life Set Hai

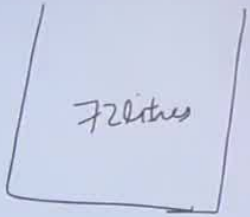

gradeup
42litre
60litre
72litres
Pepsi
Thumps up
Coke
→ No mixing
→ How many
are req
Sahi Prep Hai
Toh Life Set Hai


gradeup
42litre
60litre
72litres
Thumps up
Coke
min cars are req for this??
Sahi Prep Hai
Toh Life Set Hai

gradeup





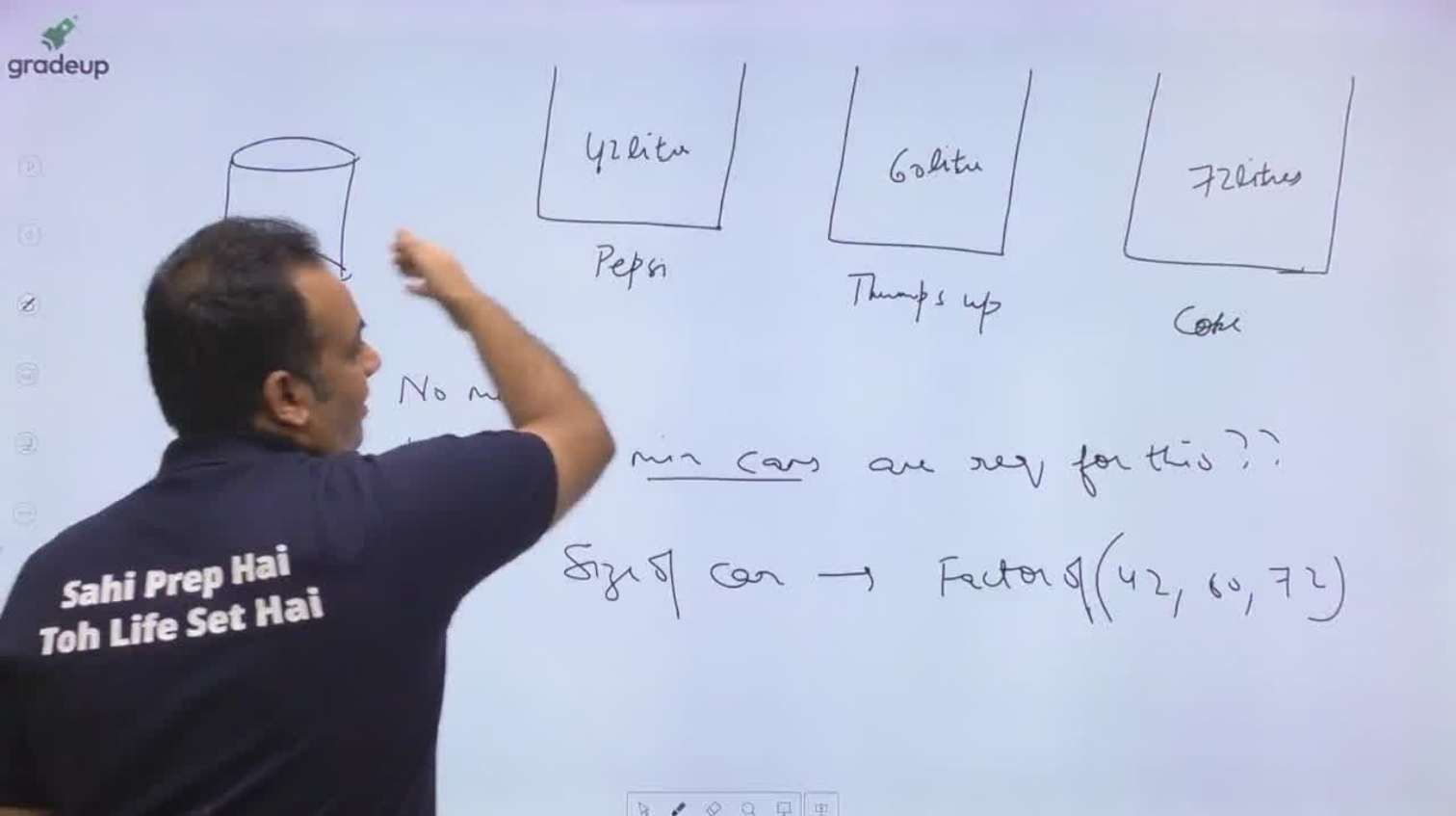


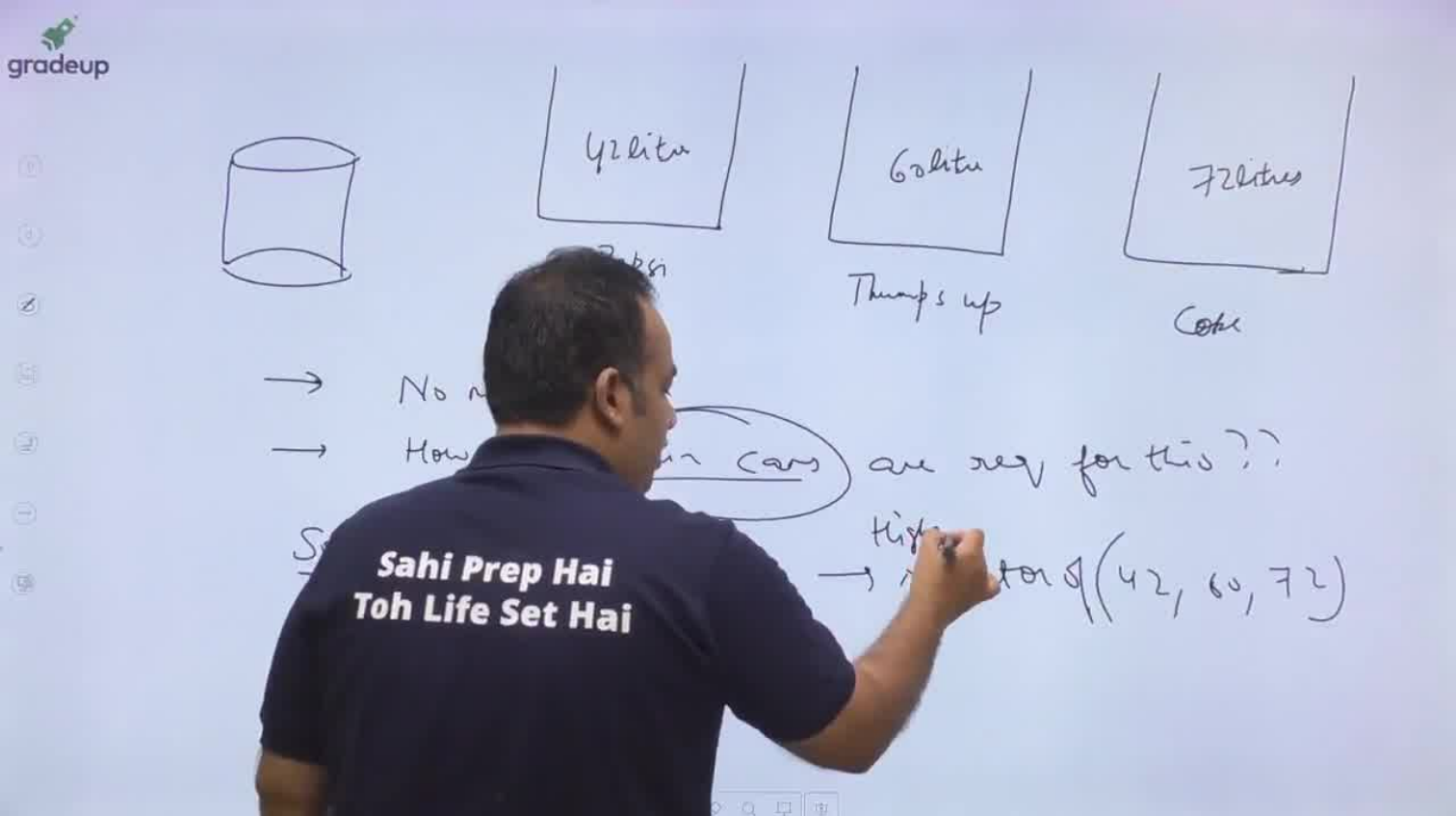
→ No mixi

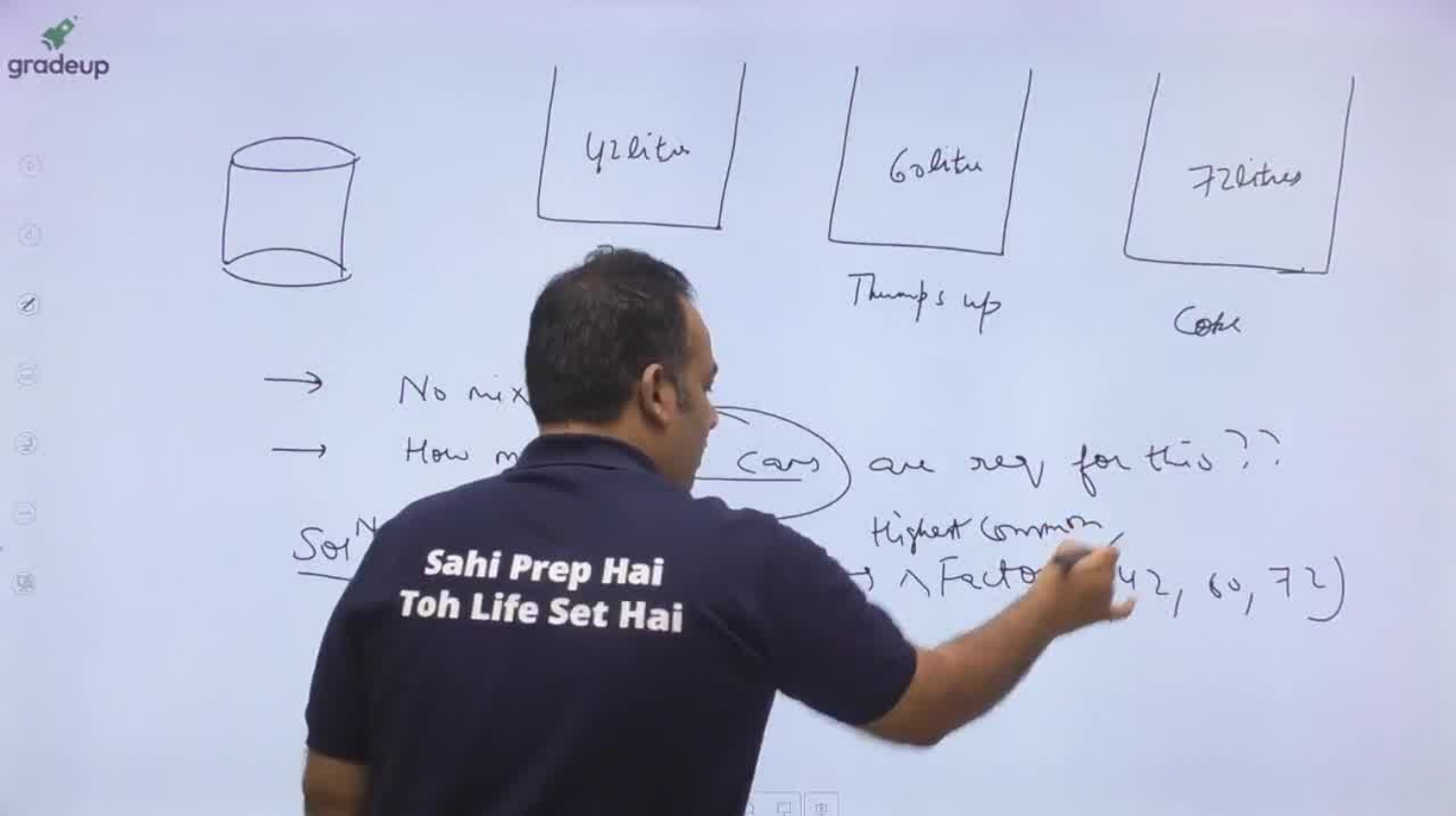
→ How ma cars are req for this ??

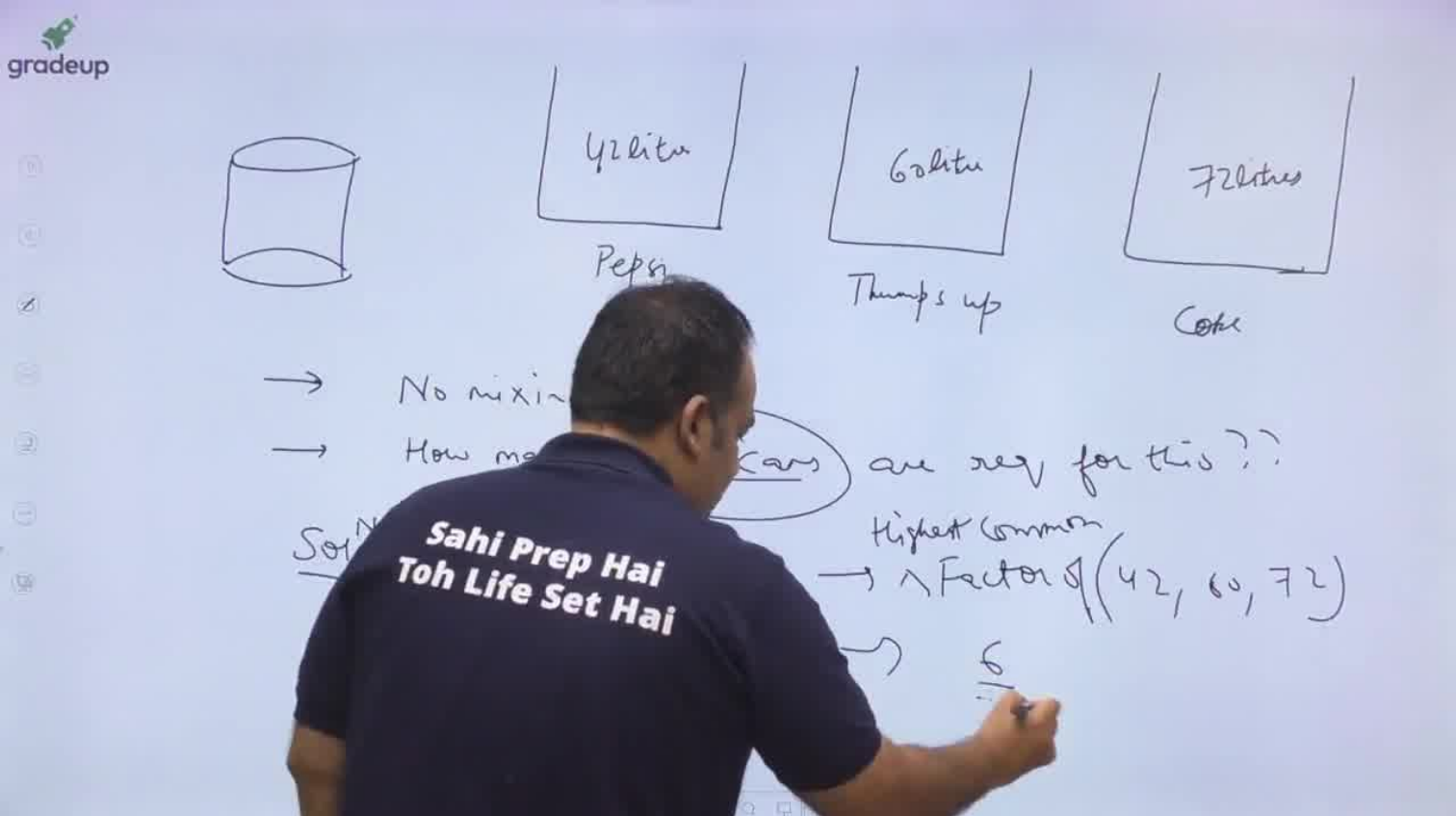
Sol^N → Facto

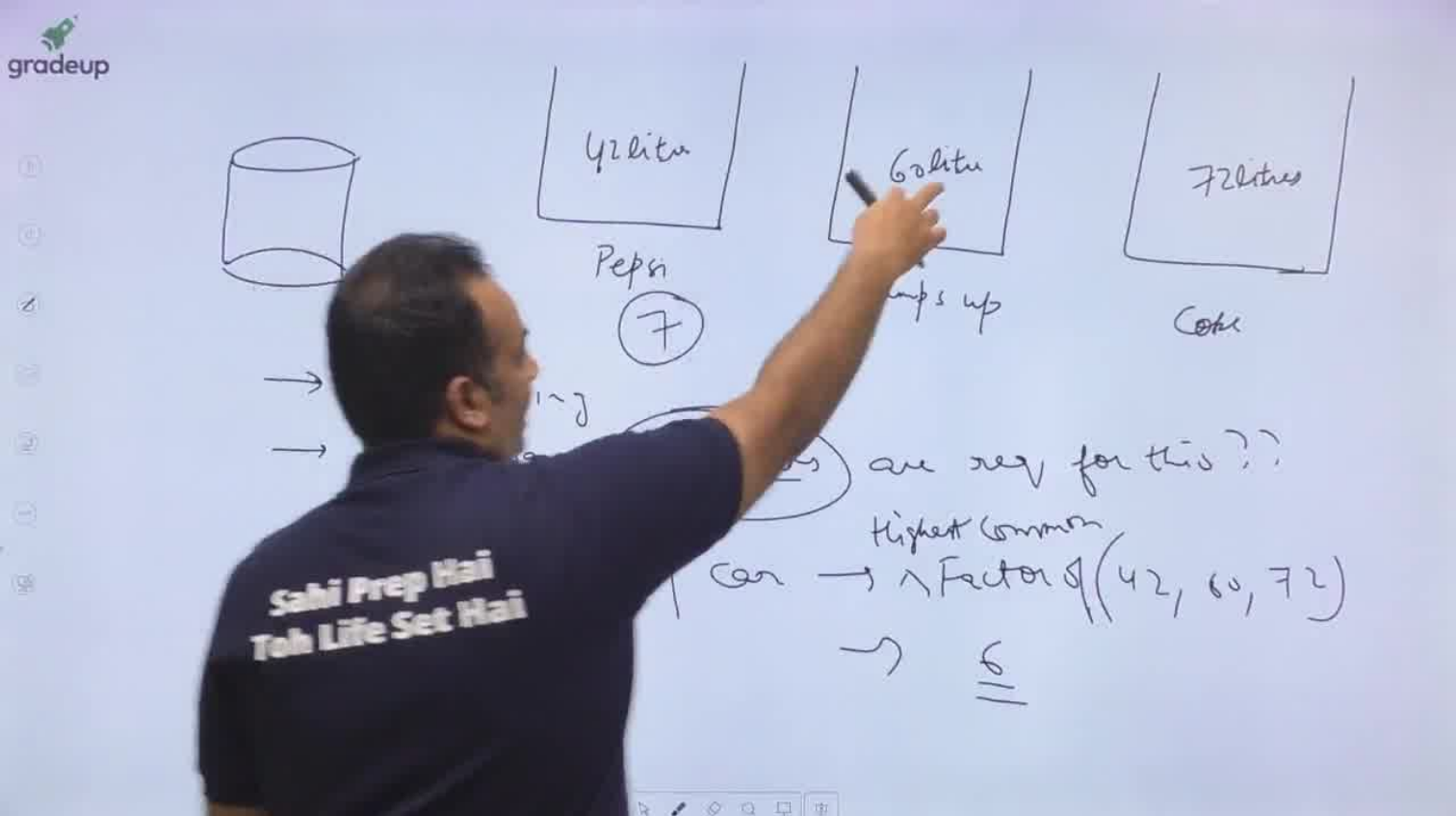
Sahi Prep Hai
Toh Life Set Hai

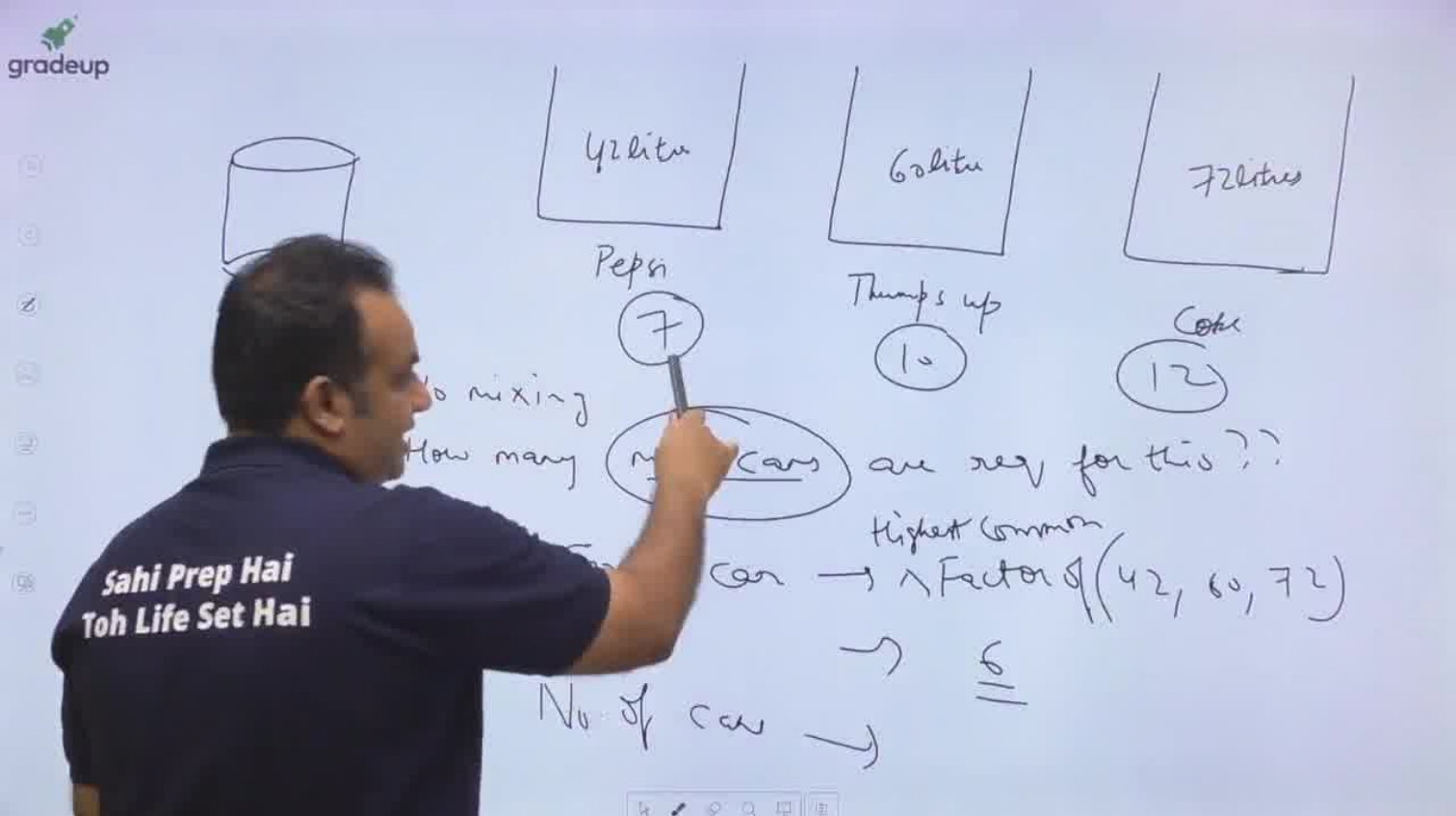

gradeup
42 litre
Pepsi
60 litre
Thumps up
72 litres
Coke
No m
min cars are req for this ??
Sabse kam car → Factors (42, 60, 72)
Sahi Prep Hai
Toh Life Set Hai

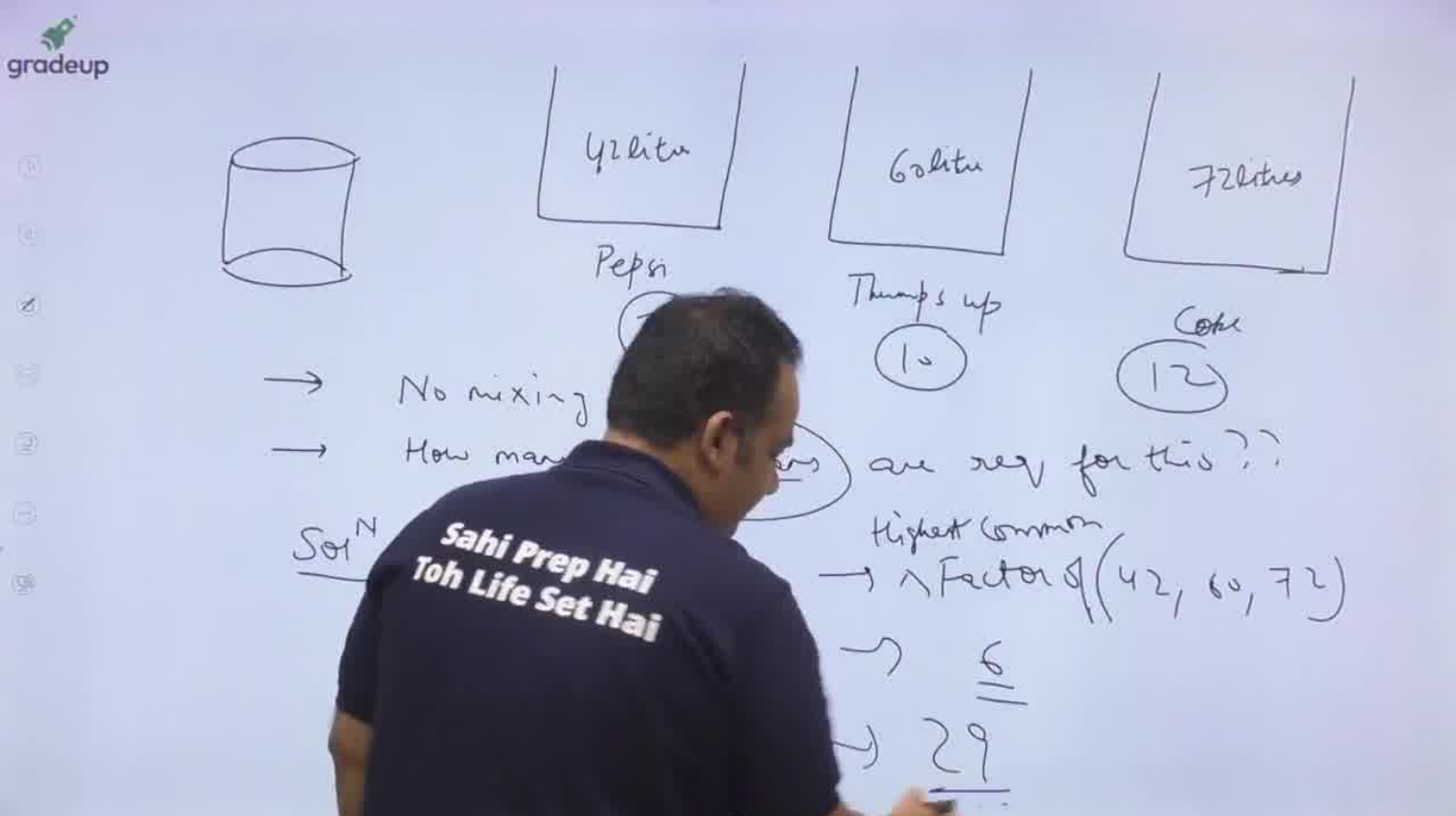

42 litre
60 litre
72 litres
Thumps up
Coke
Sahi Prep Hai
Toh Life Set Hai


gradeup
42 litres
60 litres
72 litres
Thumps up
Coke
Sahi Prep Hai
Toh Life Set Hai


gradeup
42 litre
60 litre
72 litres
Pepsi
Thumps up
Coke
→ No mixi
→ How ma
cans are req for this??
Sol
Highest Common
→ Factor of (42, 60, 72)
→ 6
Sahi Prep Hai
Toh Life Set Hai

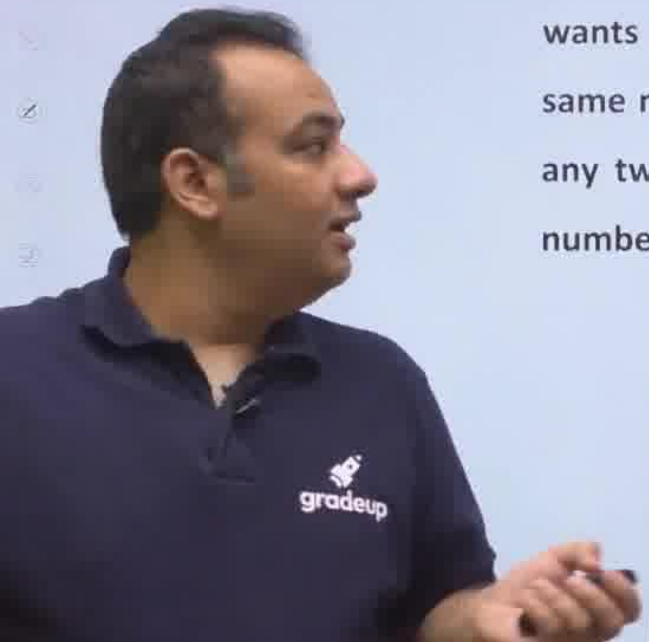

gradeup
42 litre
Pepsi
7
60 litre
72 litres
Coke
are req for this??
Highest Common
Factor of (42, 60, 72)
6
Sahi Prep Hai
Toh Life Set Hai


42 litre
60 litre
72 litres
Pepsi
7
Thumps up
10
Coke
12
How many cars are req for this??
Highest Common Factor of (42, 60, 72)
6
No of car
Sahi Prep Hai
Toh Life Set Hai


gradeup
42 litre
60 litre
72 litres
Pepsi
Thumps up
Coke
12
No mixing
How many
are req for this??
Soln
Highest Common
Factor of (42, 60, 72)
6
29
Sahi Prep Hai
Toh Life Set Hai

gradeup

Example: A milk vendor has 21 litres of cow milk 42 litres of toned milk and 63 liters of double toned milk. If he wants to pack them in cans so that each can contains same number of litres of milk and does not want to mix any two kinds of milk in a can, then what is the least number of cans required?



gradeup

Ans: As he wants to pack the milk in the cans so that each can contains same number of litres of milk.

So 21 litres of cow milk can be packed in packets of 1, 3, 7, 21 because these are factors of 21.

Similarly 42 and 63 can be packed in (1, 2, 3, 6, 7, 14, 21, 42) and (1, 3 , 7, 9, 21, 63)

So to make size of all cans same we have to take common factors of (21, 42 and 63)

Common size can be (1, 3, 7, 21) but for least number of cans maximum size of each can is to be taken which is 21 litres.

Numbers of cans required

$$\frac{21}{21}+\frac{42}{21}+\frac{63}{21}=1+2+3 \Rightarrow 6$$

gradeup

Example: What is the least number of square tiles required to pave the floor of a room 42m and 24m broad.

gradeup

Ans: As he wants to pack the milk in the cans so that each can contains same number of litres of milk.

So 21 litres of cow milk can be packed in packets of 1, 3, 7, 21 because these are factors of 21.

Similarly 42 and 63 can be packed in (1, 2, 3, 6, 7, 14, 21, 42) and (1, 3 , 7, 9, 21, 63)

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Numbers of cans required

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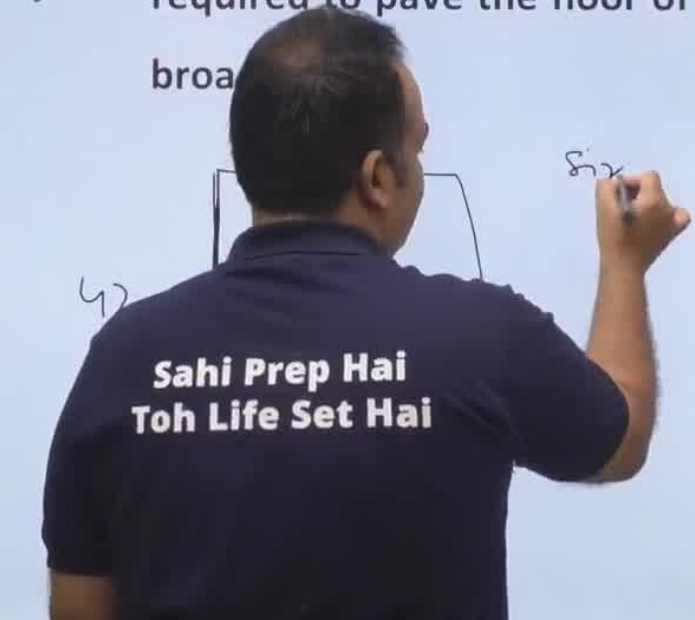
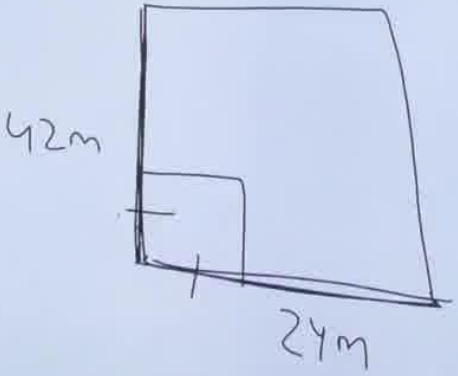
gradeup

Example: What is the least number of square tiles required to pave the floor of a room 42m and 24m broa



gradeup

Example: What is the least number of square tiles required to pave the floor of a room 42m and 24m broad.



Size of Tile = HCF of (42, 24)

= 6m

No. of Tiles = Area of Floor / Area of 1 Tile

$= \frac{42 \times 24}{6 \times 6} = 28$

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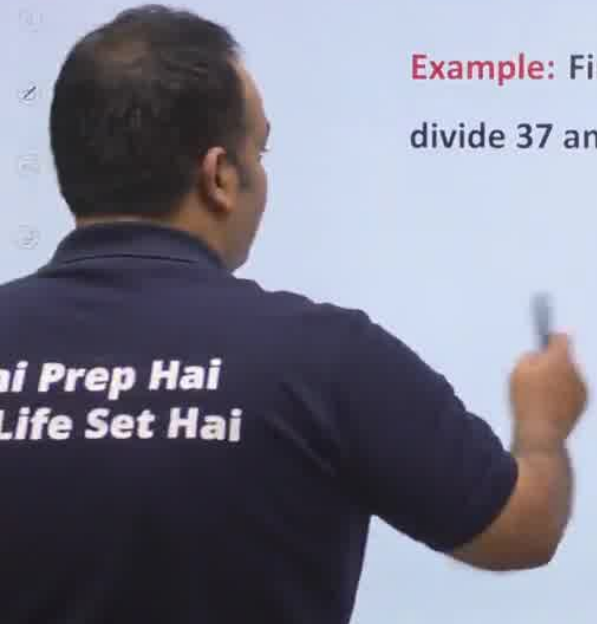
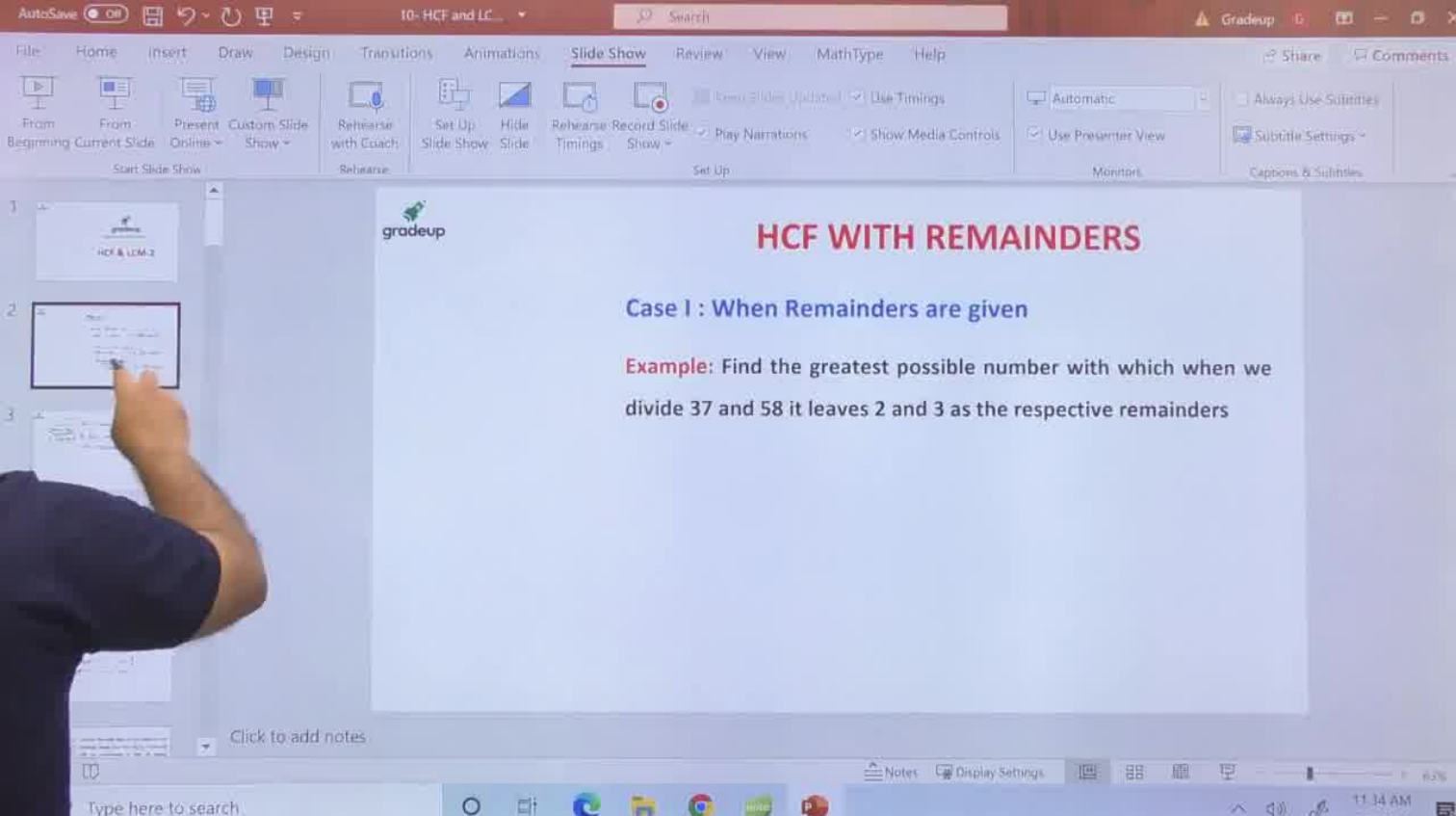
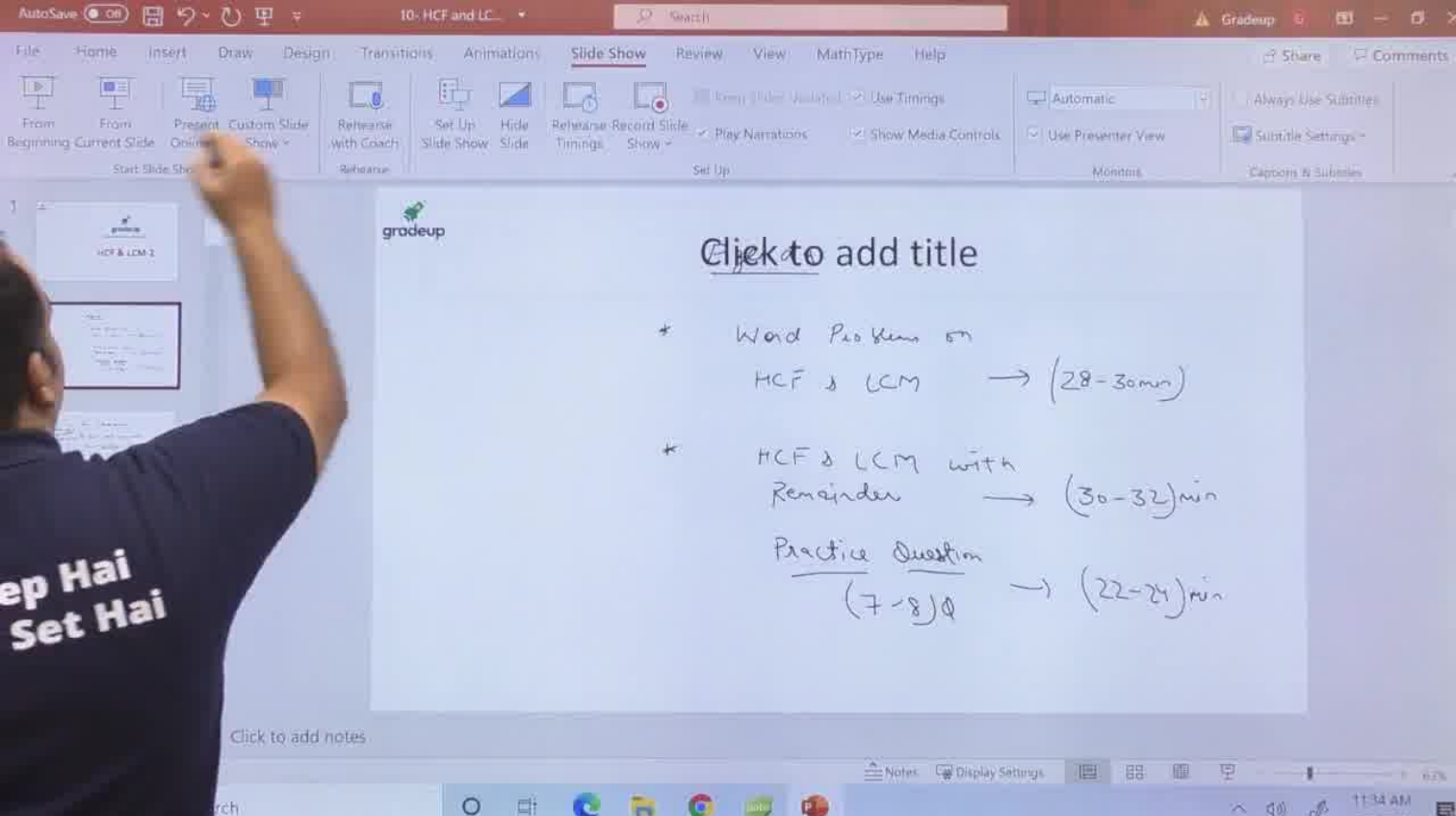
HCF WITH REMAINDERS

Case I : When Remainders are given

Example: Find the greatest possible number with which when we divide 37 and 58 it leaves 2 and 3 as the respective remainders




gradeup
HCF WITH REMAINDERS
Case I : When Remainders are given
Example: Find the greatest possible number with which when we divide 37 and 58 it leaves 2 and 3 as the respective remainders
Click to add notes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MathType
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Share
Comments
From Beginning
From Current Slide
Present Online
Custom Slide Show
Rehearse with Coach
Set Up Slide Show
Hide Slide
Rehearse Timings
Record Slide Show
Use Timings
Play Narrations
Show Media Controls
Automatic
Use Presenter View
Always Use Subtitles
Subtitle Settings
Start Slide Show
Rehearse
Set Up
Monitors
Captions & Subtitles
gradeup
Click to add title
* Word Problems on HCF & LCM → (28-30 min)
* HCF & LCM with Remainder → (30-32) min
Practice Question (7-8) Q → (22-24) min
Click to add notes
Notes
Display Settings
11:34 AM

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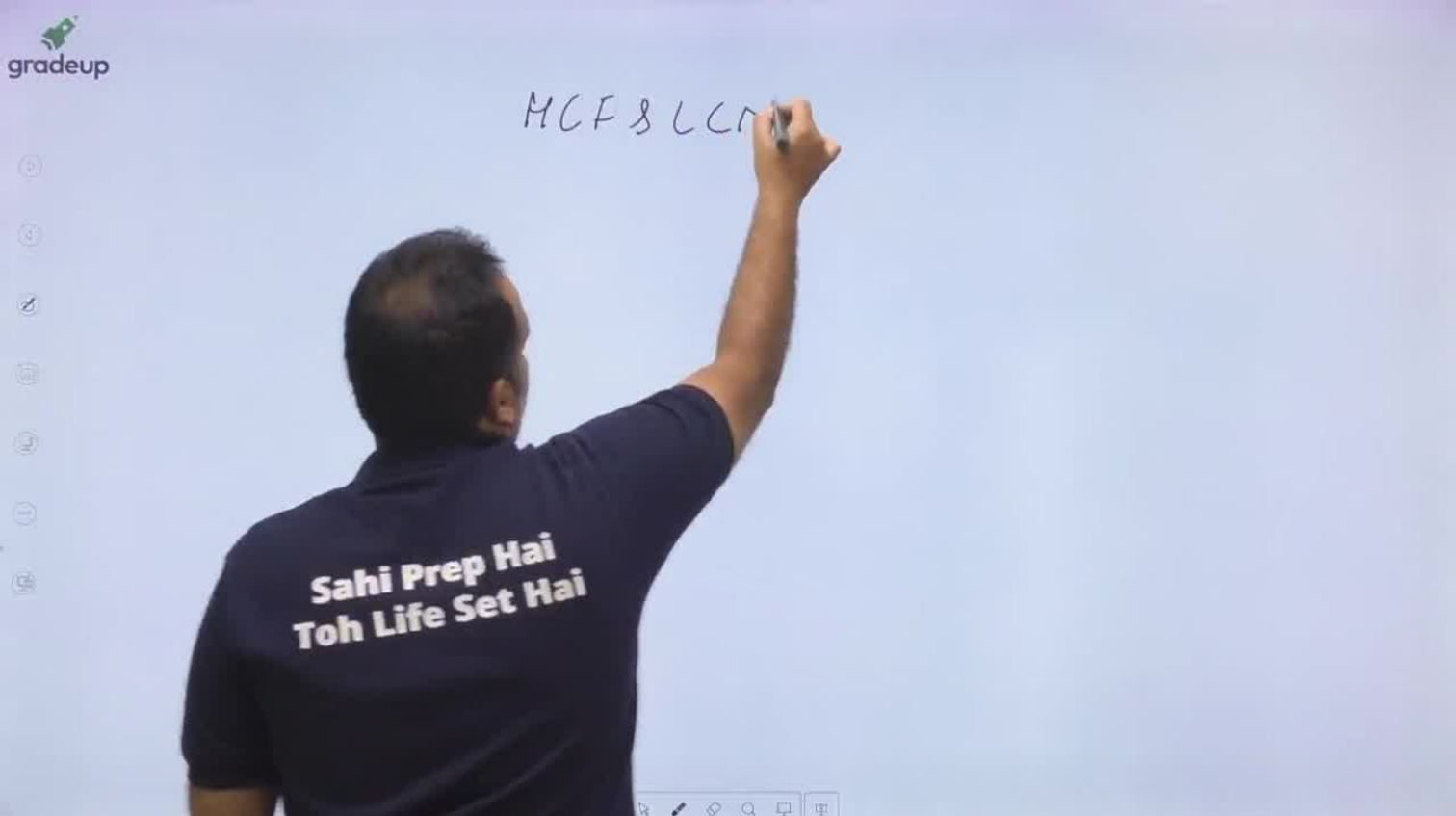
Agenda

* Word Problems on HCF & LCM → (28-30 min)

* H[illegible] with → (30-32) min

Practice Question (7-8)Q → (22-24) min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MCF & LCM
Sahi Prep Hai
Toh Life Set Hai

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MCF & LCM with Remainder

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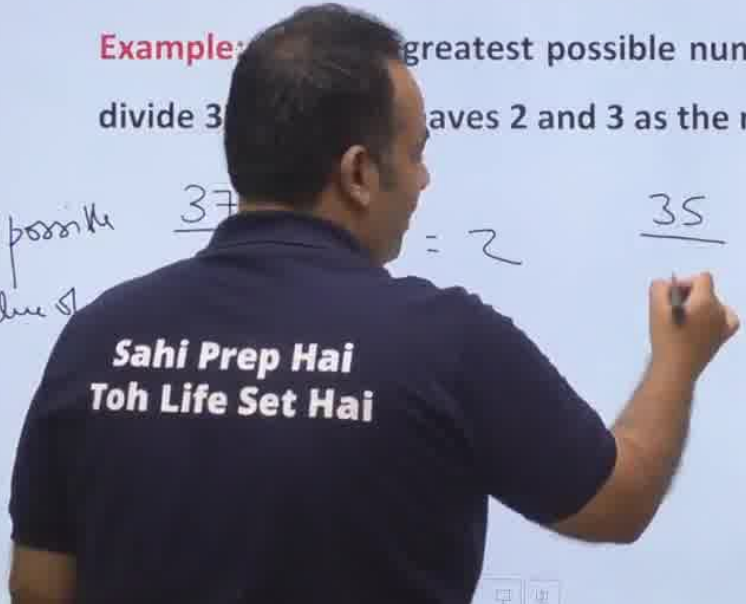
HCF WITH REMAINDERS

Case I : When Remainders are given

Example: greatest possible number with which when we divide 3 aves 2 and 3 as the respective remainders

Largest possible value of

$\frac{37}{} = 2$ $\frac{35}{}$



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HCF WITH REMAINDERS

Case I : When Remainders are given

Example: Fi[illegible]reatest possible number with which when we divide 37 [illegible]ves 2 and 3 as the respective remainders

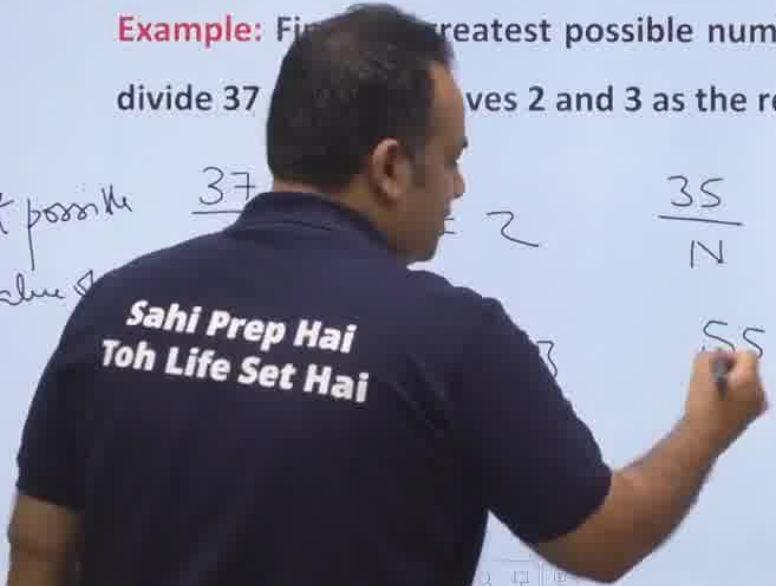
Largest possible value of

$\frac{37}{}$ [illegible] 2

$\frac{35}{N}$ $R=0$

[illegible] 3

55



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HCF WITH REMAINDERS

Case I : When Remainders are given

Ex nd the greatest possible number with which when we
d 58 it leaves 2 and 3 as the respective remainders

Largest poss

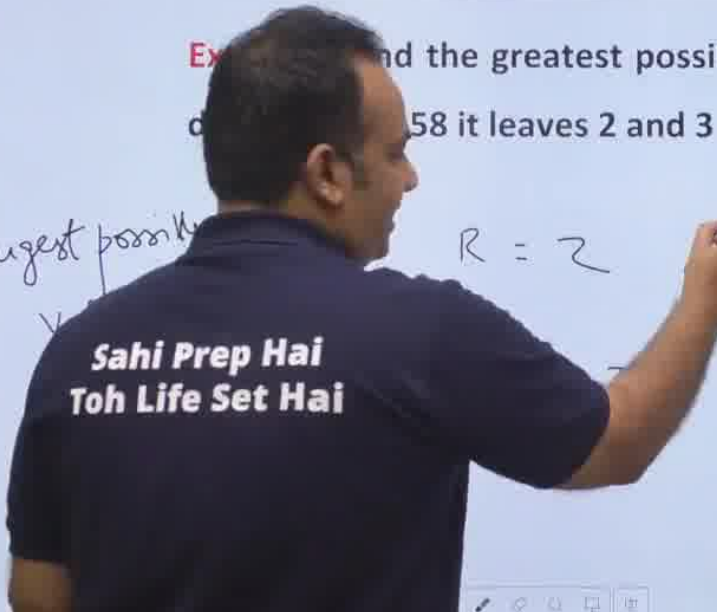
R = 2

35
N

R = 0

55
N

R = 0



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HCF WITH REMAINDERS

Case I : When Remainders are given

Example: Find the greatest possible number with which when we divide 37 and 58 it leaves 2 and 3 as the respective remainders

$\frac{37}{N}$ $R = 2$ $\frac{35}{N}$ $R = 0$

N

$\frac{58}{N}$ $R = 3$ $\frac{55}{N}$ $R = 0$

gradeup

HCF WITH REMAINDERS

Case I : When Remainders are given

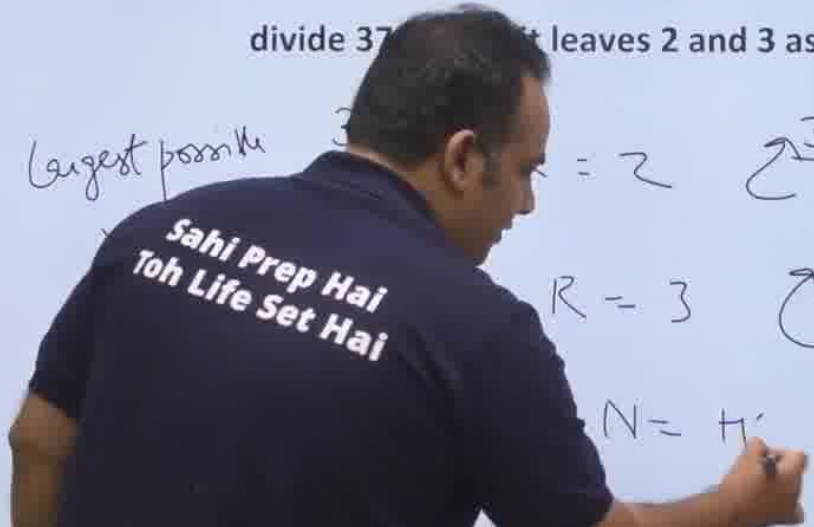
Example: Find the greatest possible number with which when we divide 37[illegible] leaves 2 and 3 as the respective remainders

Largest possible [illegible]

[illegible] = 2 $\overset{35}{\underset{N}{\curvearrowright}}$ R = 0

R = 3 $\overset{55}{\underset{N}{\curvearrowright}}$ R = 0

N = H[illegible]



gradeup

HCF WITH REMAINDERS

Case I : When Remainders are given

Example: Find the greatest possible number with which when we divide 37 and 58 it leaves 2 and 3 as the respective remainders

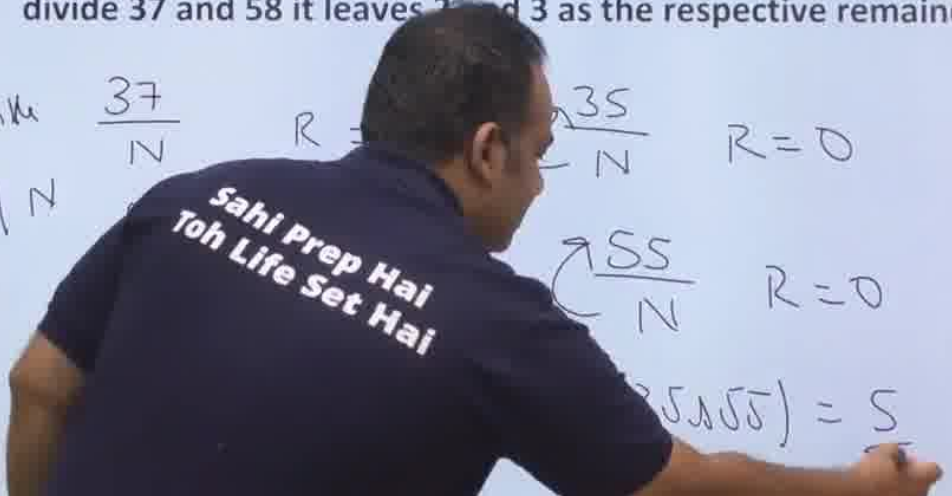
Largest possible value of N

$\frac{37}{N}$ R =

$\frac{35}{N}$ R = 0

$\frac{55}{N}$ R = 0

35, 55) = 5



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Ans: $\frac{37}{N}$ → Remainders = 2

$\frac{58}{N}$ → Remainders = 3

N | 37	N | 58
2	3

So If we subtract 2 from 37 ie 35 on division by N gives 0 as the Remainder similarly (58 -3) = 55 on division by N gives 0 as the remainder.

$\frac{35}{N}$ remainders = 0 and $\frac{55}{N}$ remainders = 0

So N is a factor of 35 and 55 ie N is a common factor and we have to find the greatest so we have to calculate HCF of 35 and 55.

HCF of 35 and 55 is 5

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1. What is the greatest number which can divide 141, 186, 231 leaving the same remainder 1 in each case?

(A) 31 (B) 5

(C) (D) 35

140, 185,

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Toh Life Set Hai

gradeup

gradeup

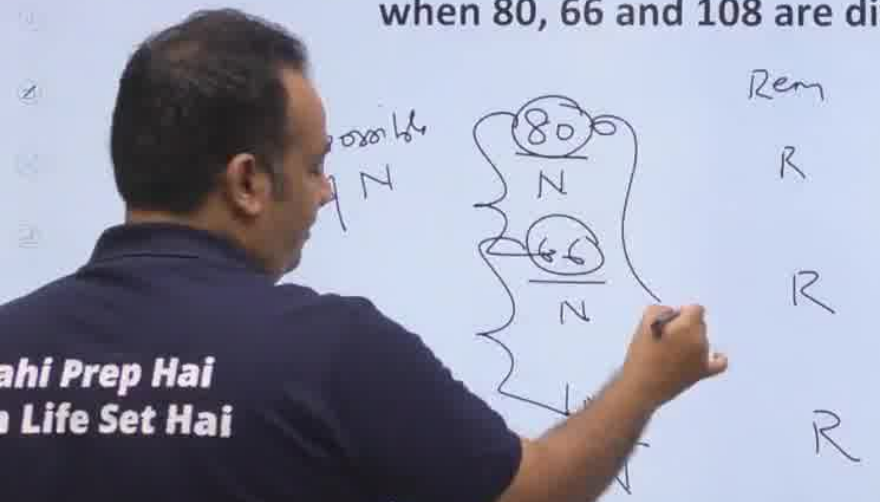
Case II : When Remainders are same but they are not given

Example: Find the largest possible number with which when 80, [illegible]nd 108 are divided the remainders are same.

gradeup

Case II : When Remainders are same but they are not given

Example: Find the largest possible number with which when 80, 66 and 108 are divided the remainders are same.



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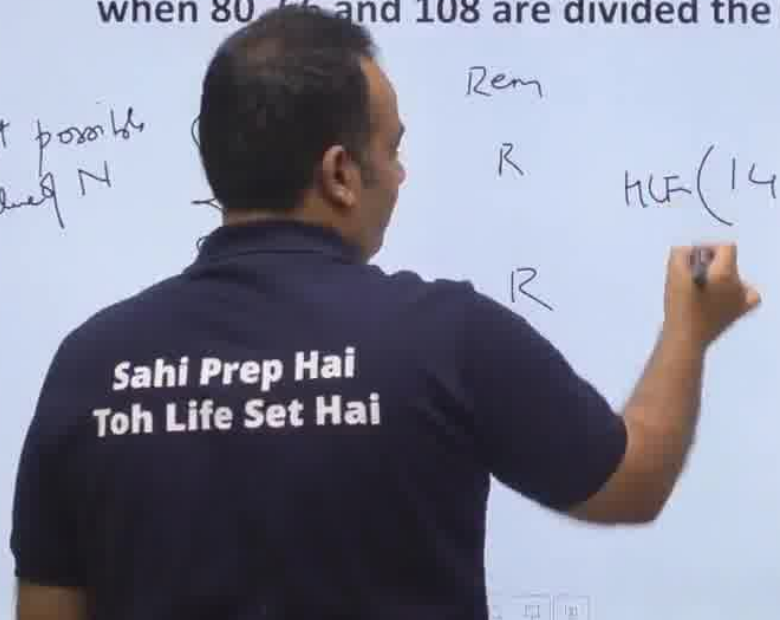
Life Set Hai

gradeup

Case II : When Remainders are same but they are not given

Example: Find the largest possible number with which when 80, 66 and 108 are divided the remainders are same.



gradeup

Ans: 80 → (R)

→ (R)

→ (R)

is case, we take the HCF of differences of the given numbers.

HCF of (80 - 66), (108 - 66) and (108 -80)

CF of 14, 42 and 28 = 14

Hence 14 is the largest possible number which leaves same remainder when it divides 80, 108 and 66.

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Toh Life Set Hai

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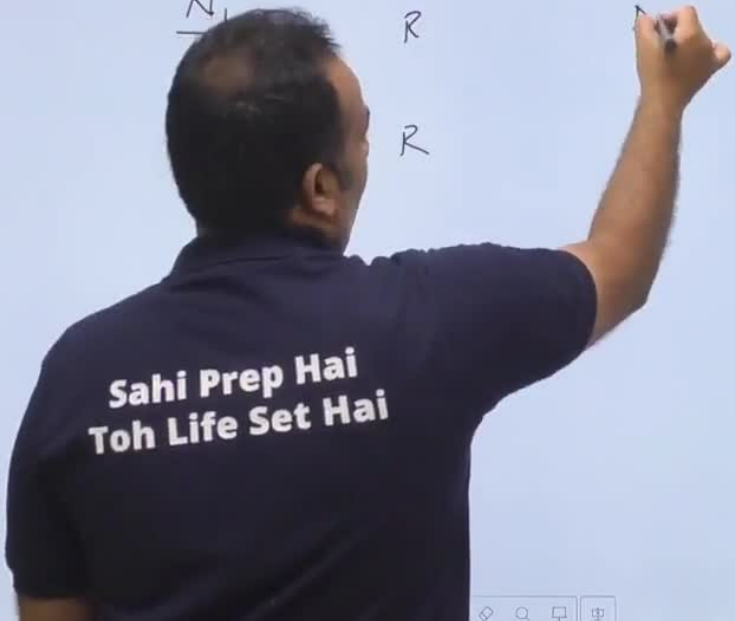
Why we are taking the diff

N_1 R

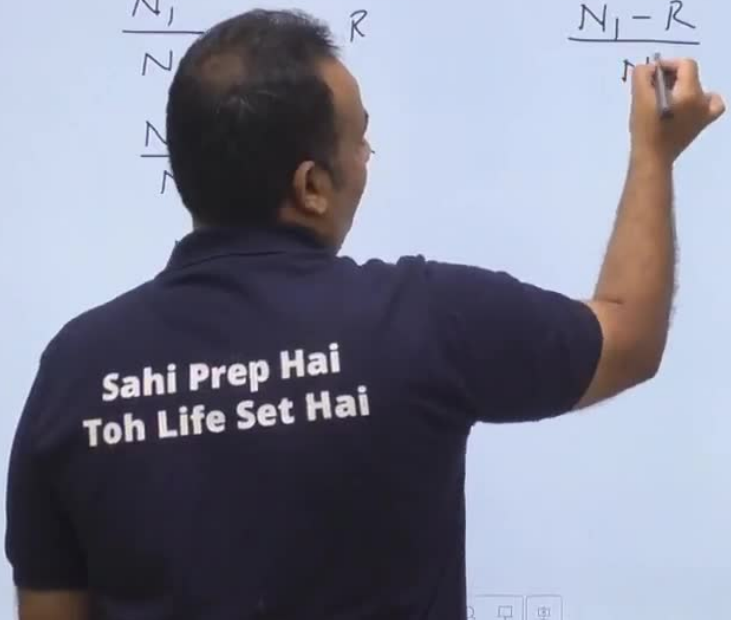
R

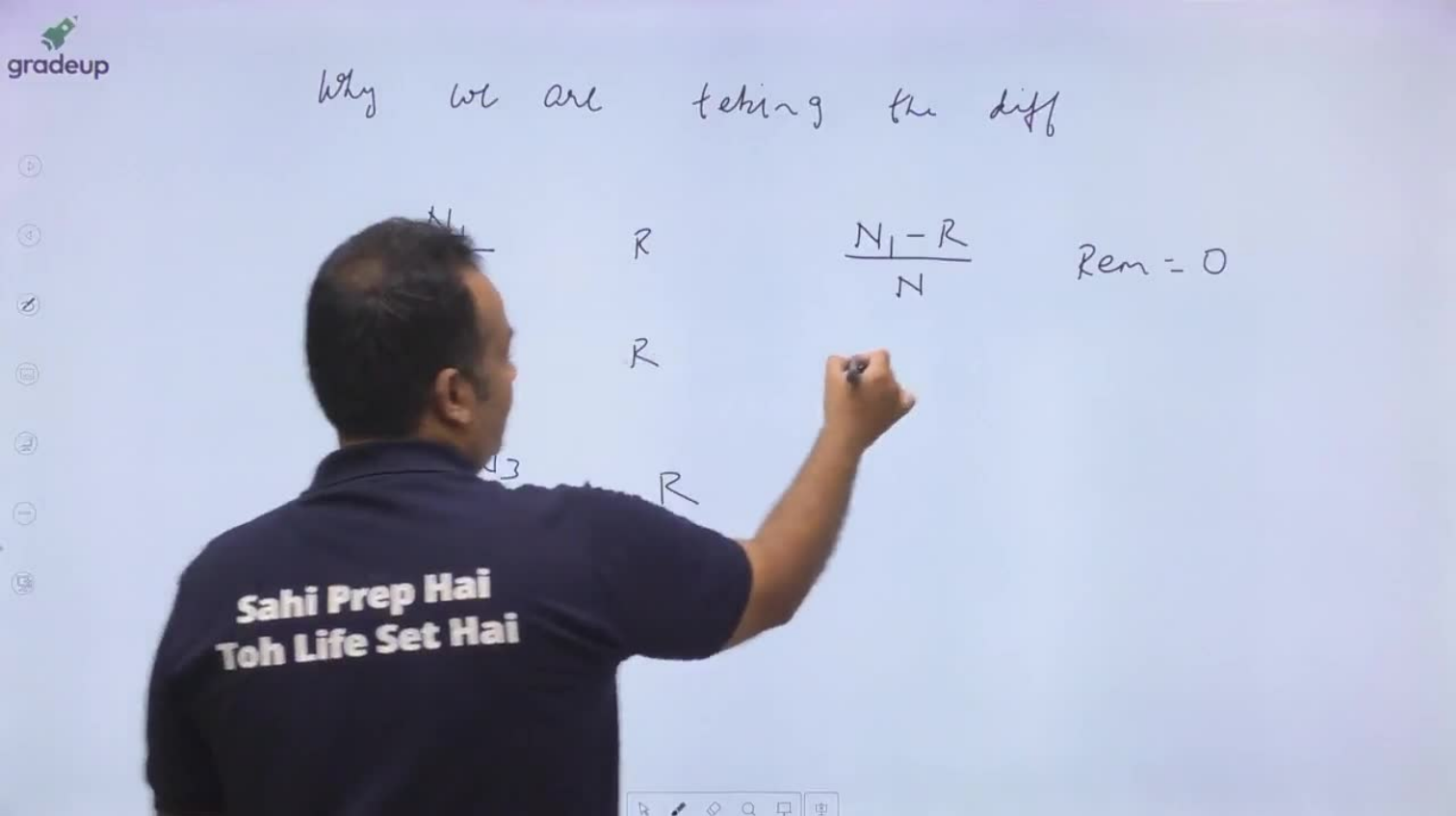


Why we are taking the diff

$\frac{N_1}{N}$ ... R $\qquad$ $\frac{N_1 - R}{N}$

$\frac{N}{N}$




gradeup
Why we are taking the diff
R
R
R
$\frac{N_1 - R}{N}$
Rem = 0
Sahi Prep Hai
Toh Life Set Hai

gradeup

Why we are taking the diff

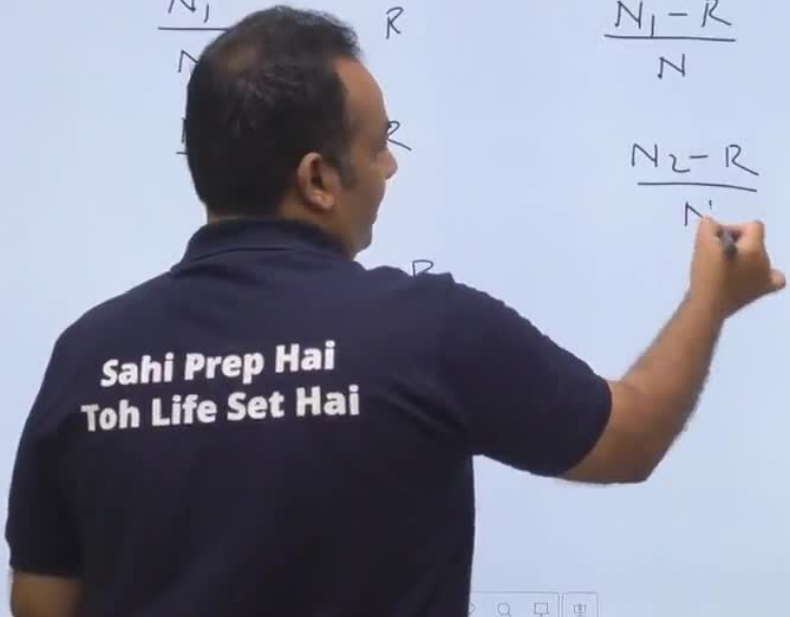
$\frac{N_1}{N}$ R

$\frac{N_1 - R}{N}$ Rem = 0

R

$\frac{N_2 - R}{N}$

R



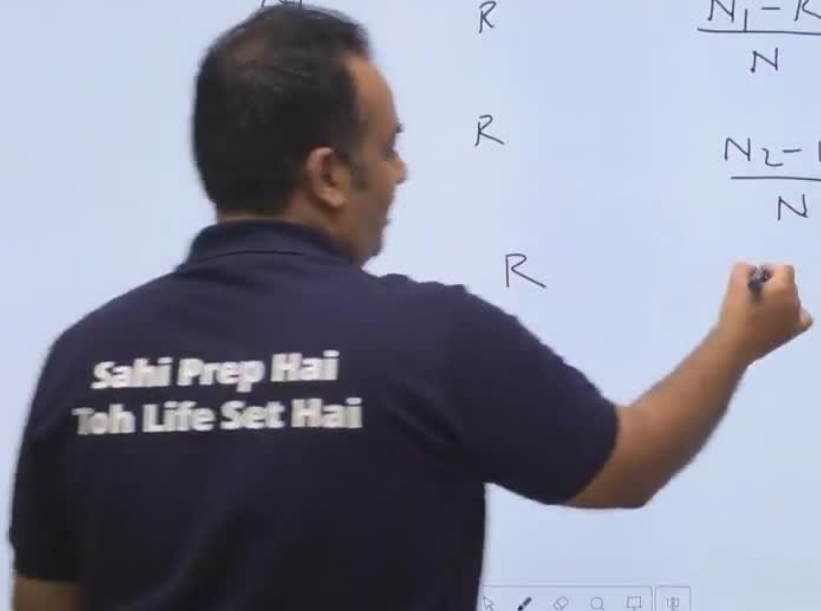
gradeup

Why we are taking the diff

N_1 R $\frac{N_1 - R}{N}$ Rem = 0

R $\frac{N_2 - R}{N}$ Rem = 0

R



Why we are taking the diff

$\frac{N_1}{N}$ R

$\frac{N_1 - R}{N}$ Rem = 0

R

$\frac{N_2 - R}{N}$ Rem = 0

R

$\frac{N_3 - R}{N}$ Rem = 0

gradeup

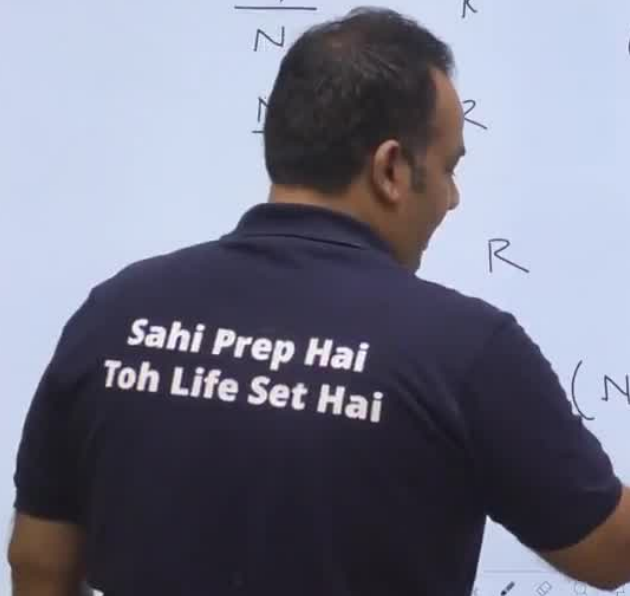
Why we are taking the diff

$\frac{N_1}{N}$ R $\quad \frac{N_1 - R}{N}$ Rem = 0

R $\quad \frac{N_2 - R}{N}$ Rem = 0

R $\quad \frac{N_3 - R}{N}$ Rem = 0

$(N_1 - R_1$



Why we are taking the diff

12 H. x	$\frac{N_1}{N}$	R	$\frac{N_1 - R}{N}$ Rem = 0
y	$\frac{N_2}{N}$	R	$\frac{N_2 - R}{N}$ Rem = 0
Hx	$\frac{N_3}{N}$	R	$\frac{N_3 - R}{N}$ Rem = 0
H(y-x)			

HCF of $(N_1 - R_1,\ N_2 - R_1,\ N_3 - R)$

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Why we are taking the diff

$12 = H \cdot x$

$18 = H \cdot y$

$18 - 12 = Hy - Hx$

$= H$

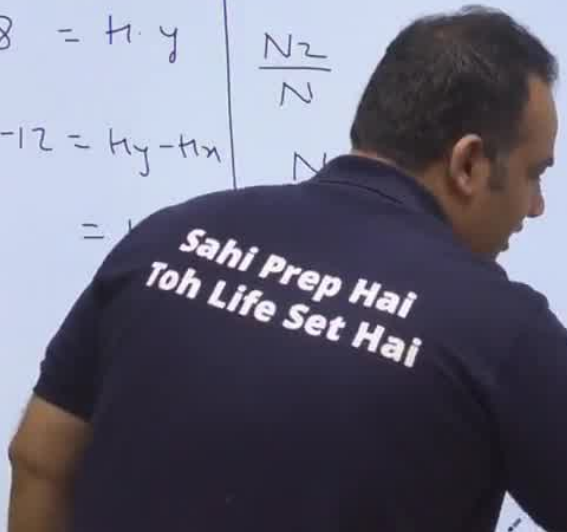
$\frac{N_1}{N}$ R $\xrightarrow{\frac{N_1 - R}{N}}$ Rem = 0

$\frac{N_2}{N}$ $\xrightarrow{\frac{N_2 - R}{N}}$ Rem = 0

$\xrightarrow{\frac{N_3 - R}{N}}$ Rem = 0

$(N_1 - R_1 \quad N_2 - R_1 \quad N_3 - R)$

$N_1 - N_2$



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Why we are taking the diff

$12 = H \cdot x$

$18 = H \cdot y$

$18 - 12 = Hy - Hx$

$= H(y - x)$

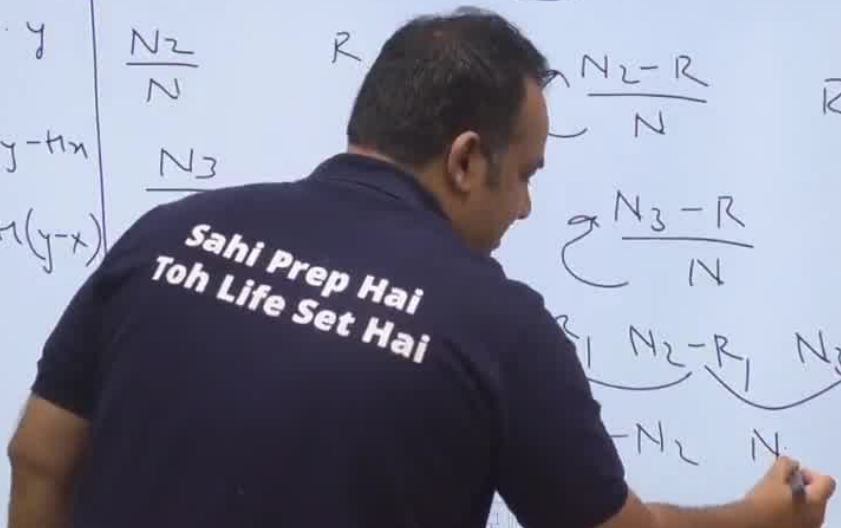
$\frac{N_1}{N}$ R $\frac{N_1 - R}{N}$ Rem = 0

$\frac{N_2}{N}$ R $\frac{N_2 - R}{N}$ Rem = 0

$\frac{N_3}{N}$ $\frac{N_3 - R}{N}$ Rem = 0

R_1 $N_2 - R_1$ $N_3 - R$)

$-N_2$ N



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Practice Questions

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2. Three drums contain 2527 litres, 1653 litres, and 2261 litres milk respectively. What is the biggest measure that can measure milk of each drum exactly?

(A) 19 litre
(B) 20 litre
(C) 29 litre
(D) 31 litre

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HCF
Case II

5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A) 4
(B) 5
(C) 6
(D) 8

330

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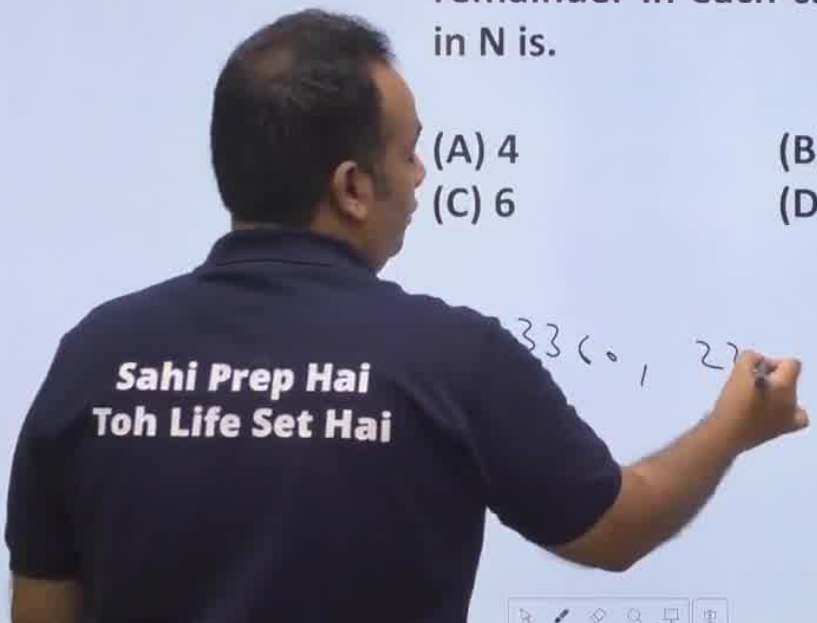
HCF
Case II

5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A) 4
(B) 5
(C) 6
(D) 8



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HCF
Case II

5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A) 4
(B) 5
(C) 6
(D) 8

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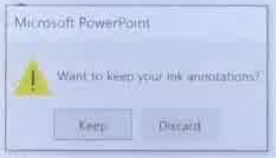
HCF
Case II

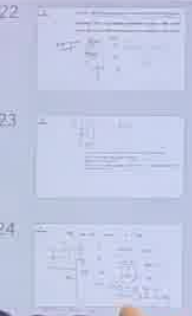
5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A)
(B) 5
(C)
(D) 8



N = HCF (3360, 2240)

1120



gradeup

HCF
Conc II

5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A) 4 **(B) 5**
(C) 6 **(D) 8**

N = HCF (3300, 2244)
= 1120

Click to add notes

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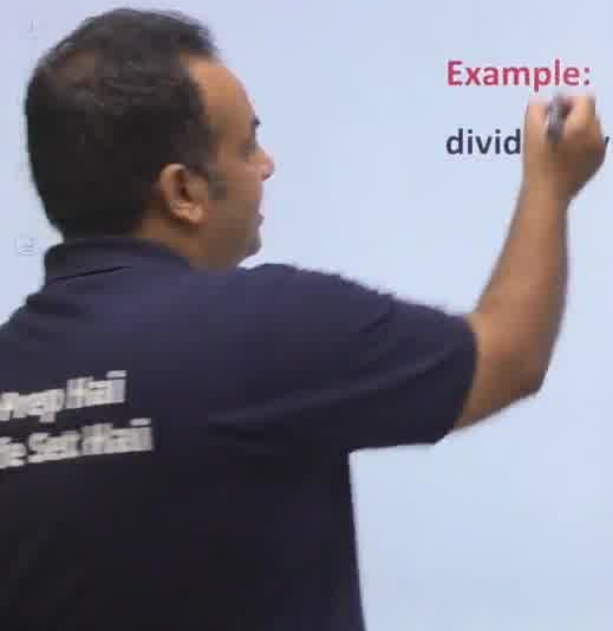
LCM WITH REMAINDERS

Case I : When Remainders are same

Example: What is the least possible number which when divid[illegible] 7 and 8 in each case, it leaves the remainders 2?



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LCM WITH REMAINDERS

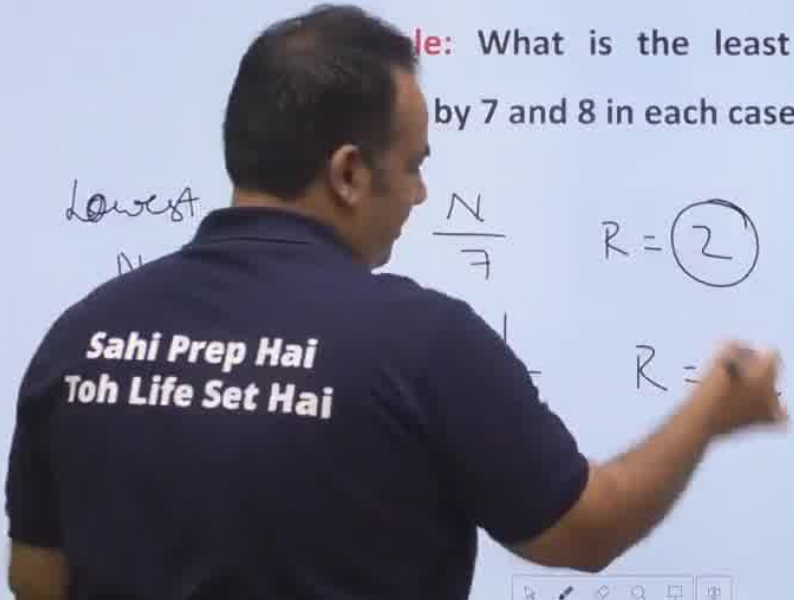
Case I : When Remainders are same

le: What is the least possible number which when
by 7 and 8 in each case, it leaves the remainders 2?

Lowest

$\frac{N}{7}$ $R = 2$

$R =$



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LCM WITH REMAINDERS

Case I : When Remainders are same

ample: What is the least possible number which when

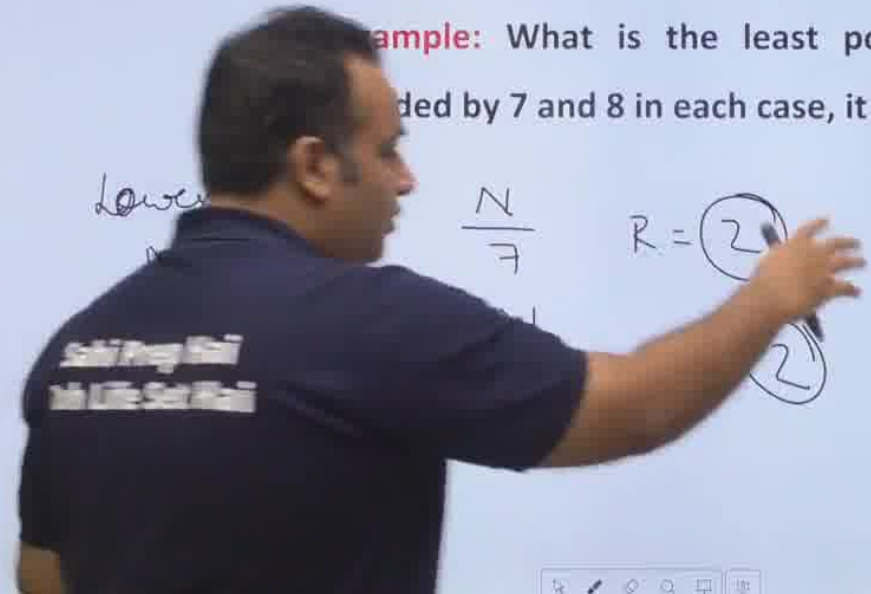
ded by 7 and 8 in each case, it leaves the remainders 2?

Lowe

$\frac{N}{7}$ $R = 2$

2

2



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LCM WITH REMAINDERS

Case I : When Remainders are same

Example: What is the leas[illegible]le number which when divided by 7 and 8 in each c[illegible]s the remainders 2?

Lowest Number

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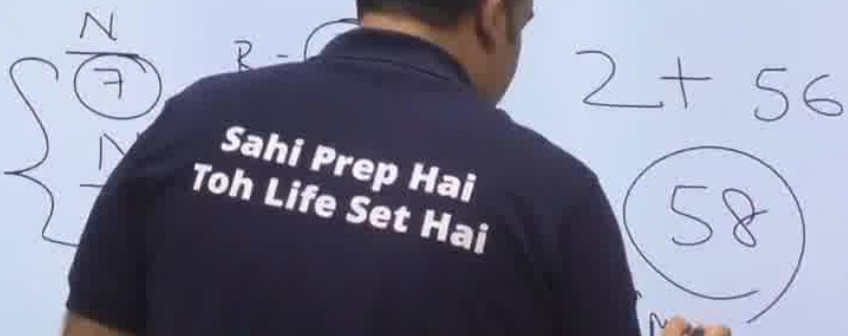
LCM WITH REMAINDERS

Case I : When Remainders are same

Example: What is the least possible number which when divided by 7 and 8 in each ... ves the remainders 2?

Lowest Number



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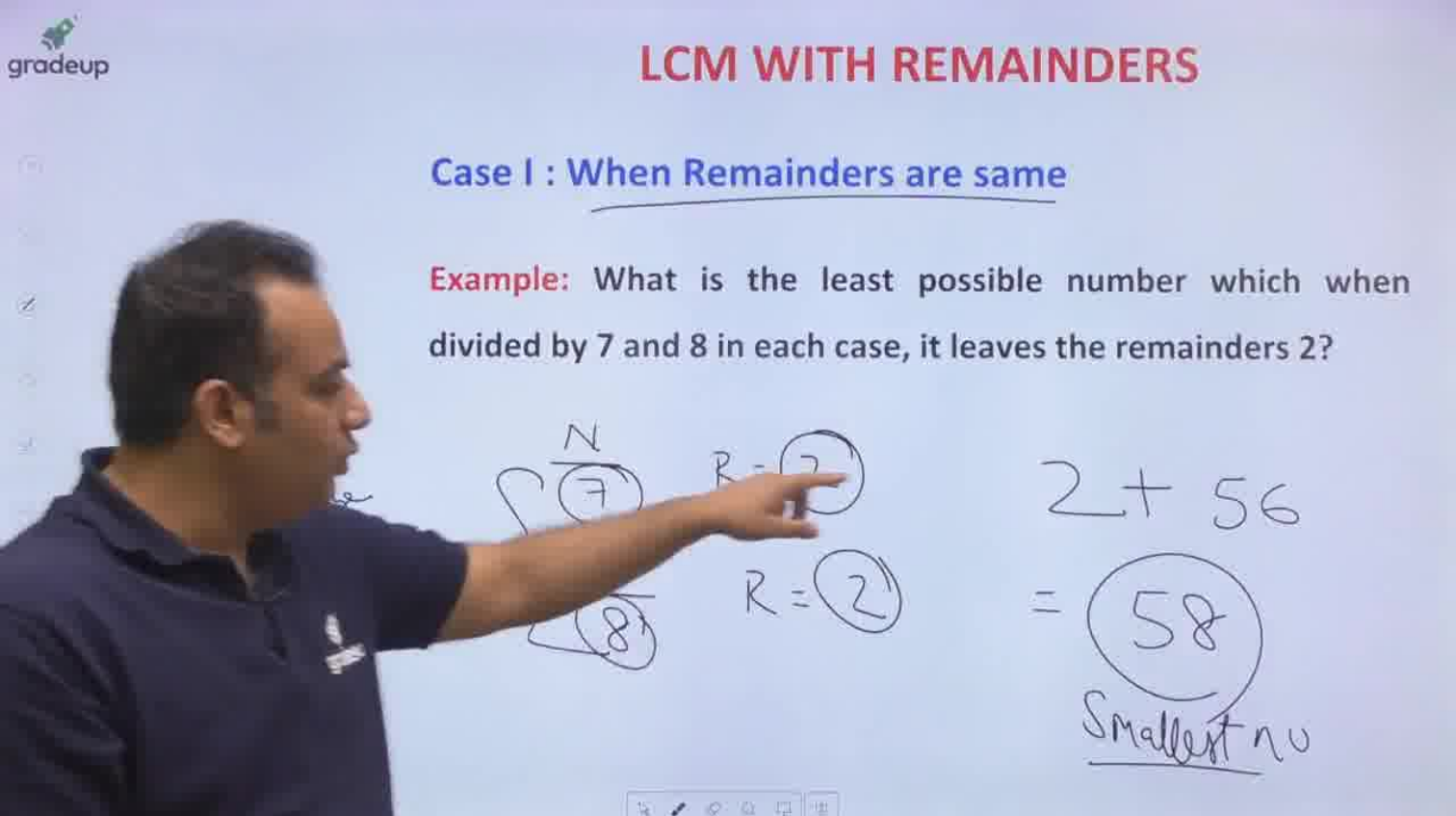
LCM WITH REMAINDERS

Case I : When Remainders are same

Example: What is the least possible number which when divided by 7 and 8 in each case, it leaves the remainders 2?



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LCM WITH REMAINDERS

Case I : When Remainders are same

Exa t is the least possible number which when
di d 8 in each case, it leaves the remainders 2?

Lowest
Numb

R = 2

2 + 56
= 58
Smallest no

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Ans: $\frac{N}{7} \rightarrow$ Remainder = 2

$\frac{N}{8} \rightarrow$ Remainder = 2

As N is a number which on division by 7 gives a remainder of 2, it means N is 2 more than a multiple of 7 similarly N is 2 more than a multiple of 8.

So N is 2 more than a common multiple of 7 and 8.

least possible value of N

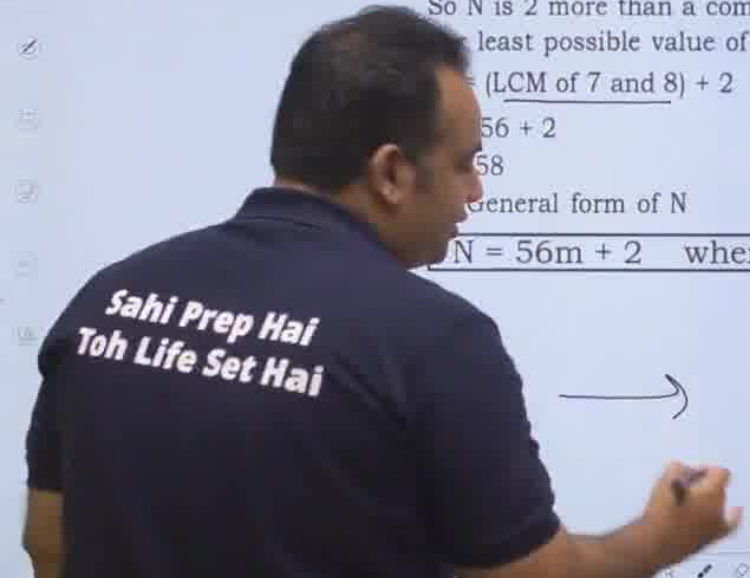
(LCM of 7 and 8) + 2

56 + 2

58

General form of N

$N = 56m + 2$ where $(m = 0, 1, 2.....)$



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As N is a number which on division by 7 gives a remainder of 2, it means N is 2 more than a multiple of 7 similarly N is 2 more than a multiple of 8.

So N is 2 more than a common multiple of 7 and 8.

For least possible value of N

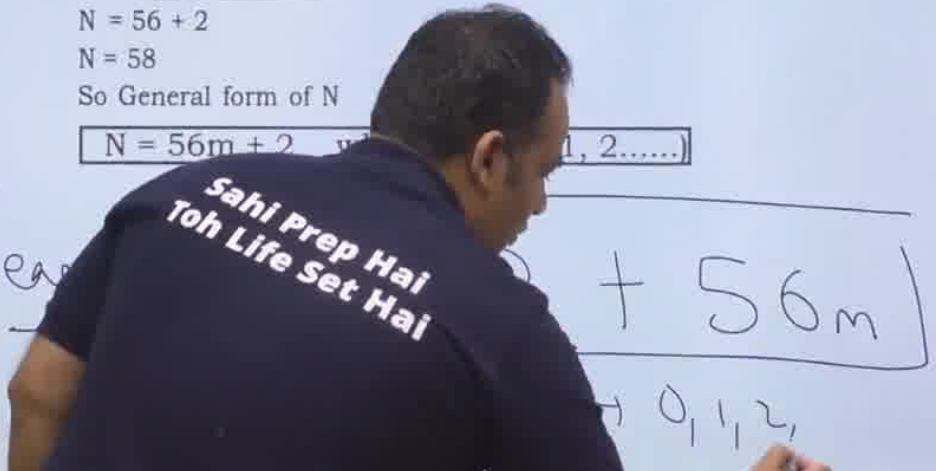
N = (LCM of 7 and 8) + 2

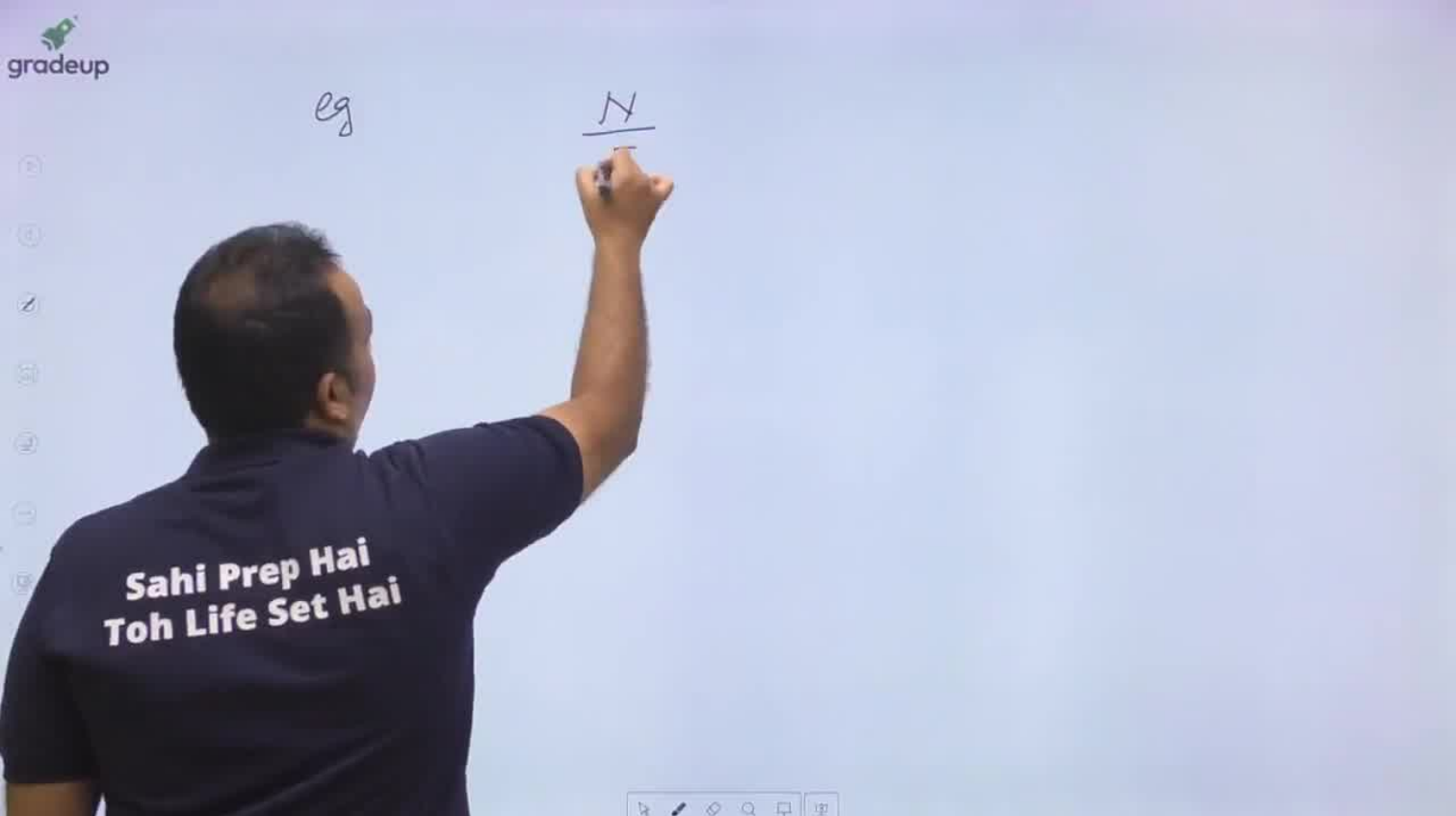
N = 56 + 2

N = 58

So General form of N

N = 56m + 2 ...1, 2.....)

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eg
N
Sahi Prep Hai
Toh Life Set Hai

gradeup

eg $\frac{N}{5}$ $R = 2$

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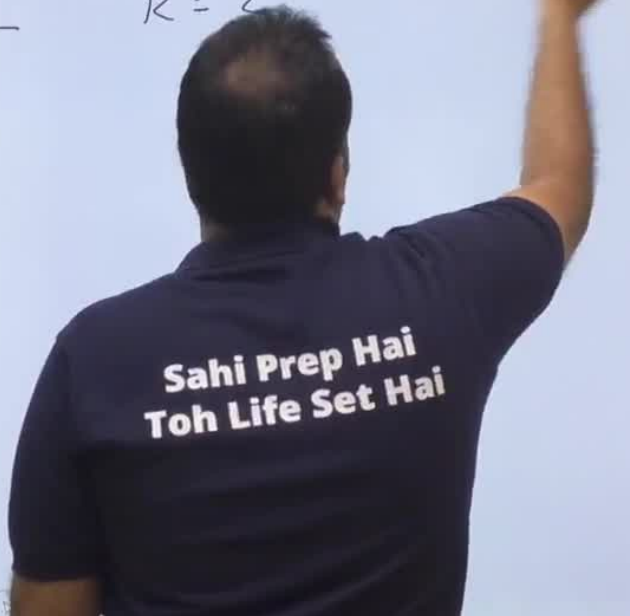
eg $\frac{N}{5}$ $R = 2$ General Form

$\frac{N}{7}$ $R = 2$



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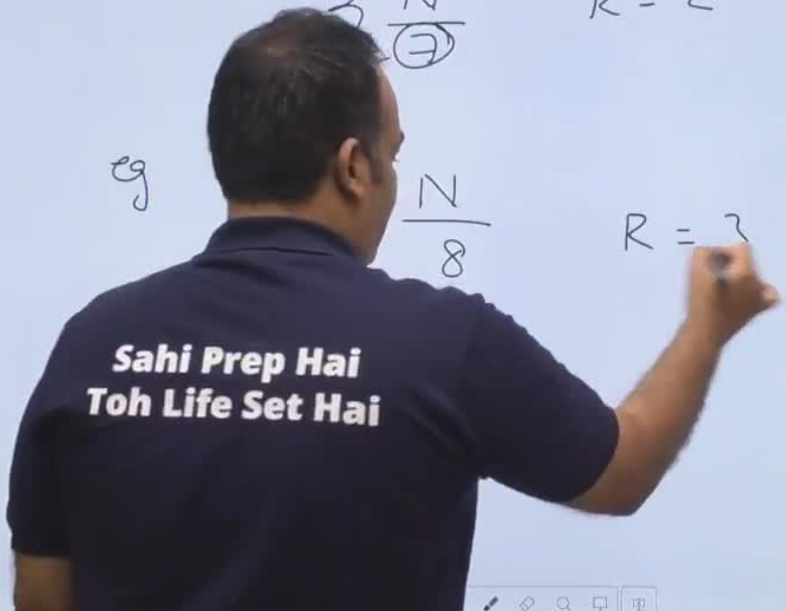
eg $\frac{N}{5}$ $R = 2$

$\frac{N}{3}$ $R = 2$

General Form

$2 + 35m$

eg $\frac{N}{8}$ $R = 3$



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eg

$\frac{N}{5}$ $R = 2$

$\frac{N}{3}$ $R = 2$

General Form

$2 + 35m$

$\frac{N}{8}$ $R = 3$

$\frac{N}{6}$ $R = 3$

gradeup

eg

N (5)

N (3)

$R = 2$

$R = 2$

General Form

$2 + 35m$

eg

$\frac{N}{8}$

3

Gener

Sahi Prep Hai
Toh Life Set Hai

gradeup

eg

N
5

R = 2

General Form

N
3

R = 2

2+35m

eg

N
8

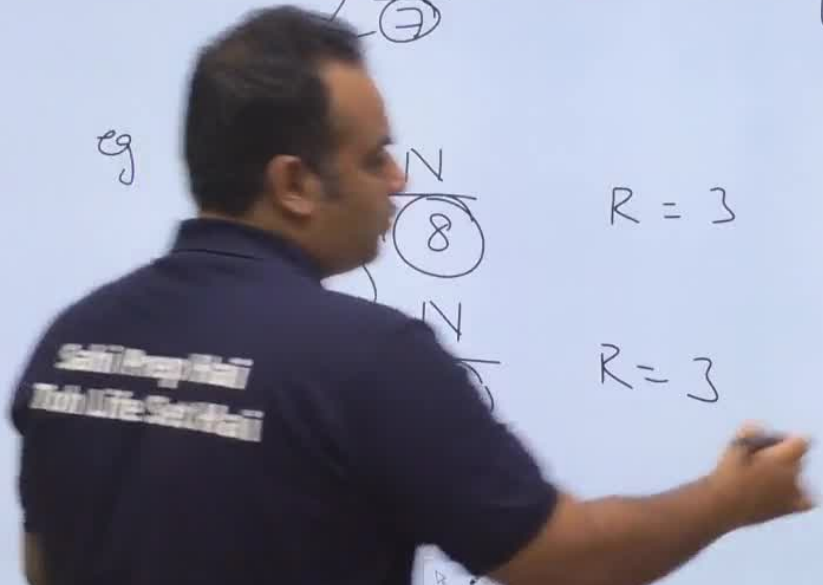
R = 3

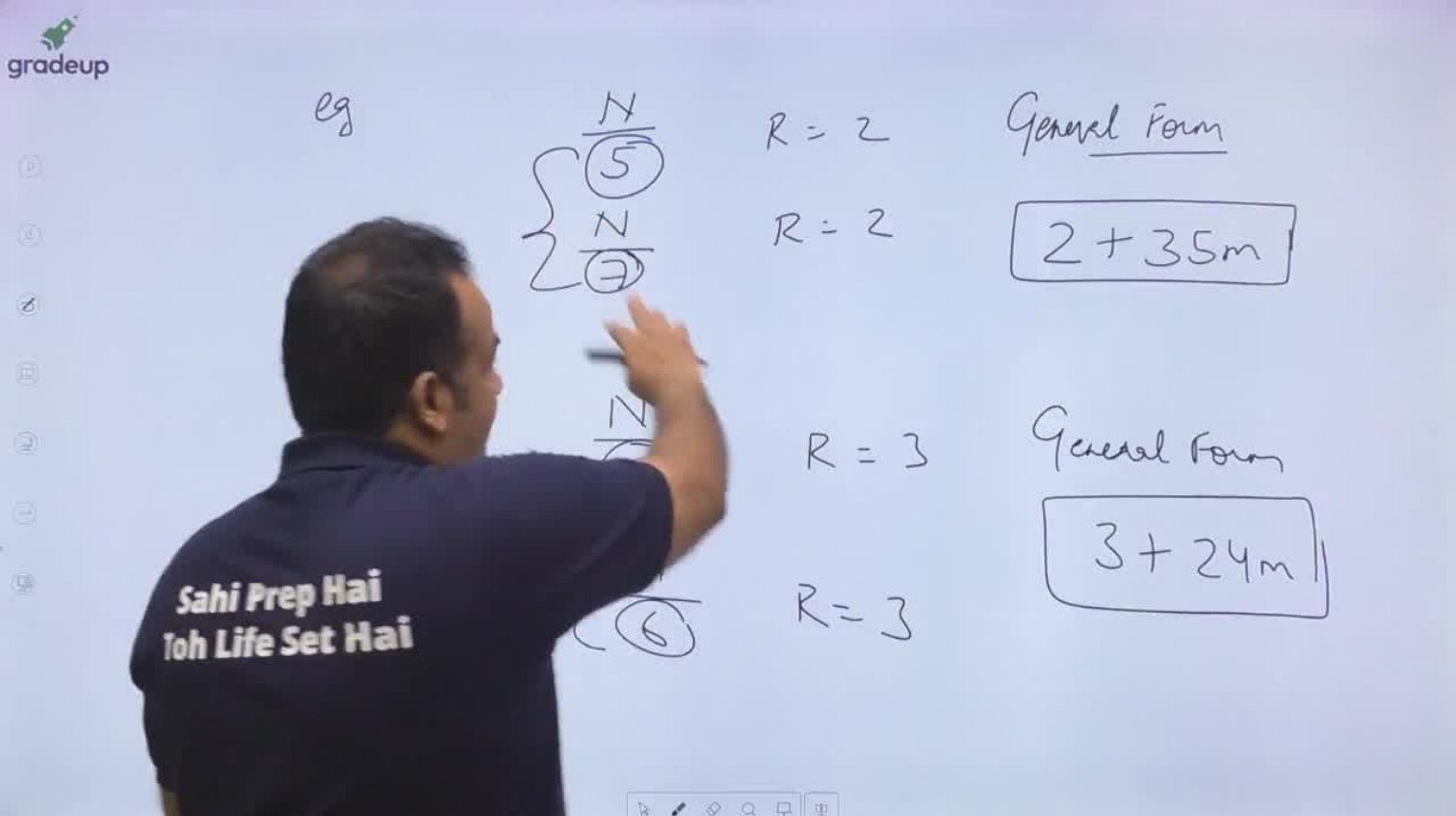
General Form

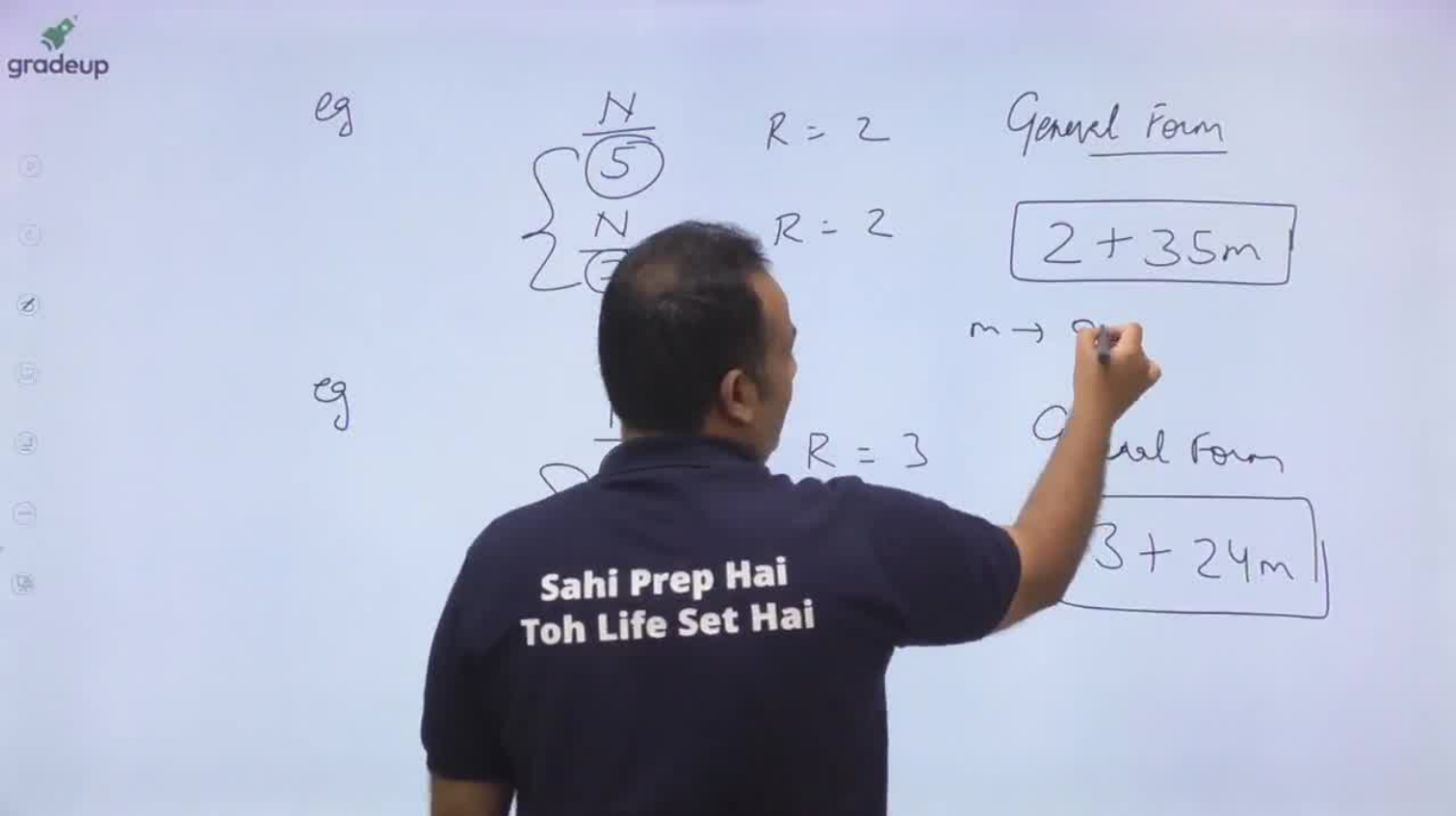
3+

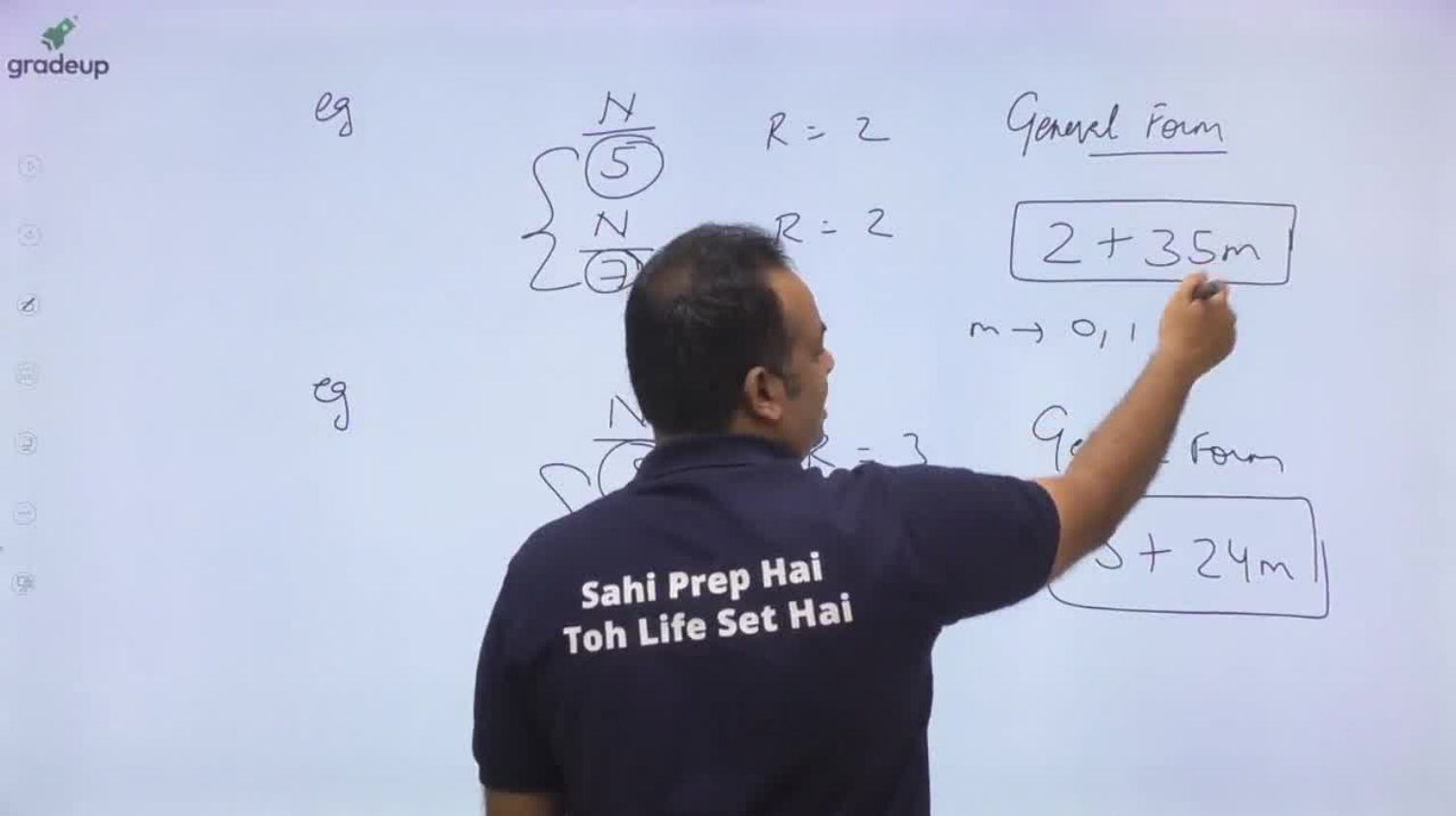
N

R = 3




gradeup
eg
N
5
N
3
R = 2
R = 2
General Form
2 + 35m
N
R = 3
General Form
3 + 24m
6
R = 3
Sahi Prep Hai
Toh Life Set Hai

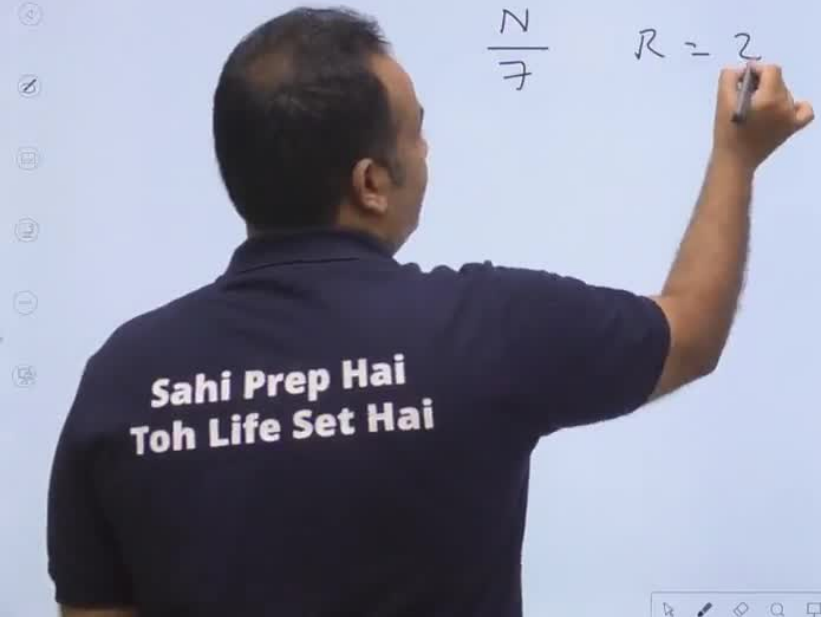

gradeup
eg
N
5
R = 2
General Form
2+35m
N
R = 2
m →
eg
R = 3
3+24m
Sahi Prep Hai
Toh Life Set Hai


gradeup
eg
N
5
R = 2
General Form
2 + 35m
m → 0, 1
eg
Sahi Prep Hai
Toh Life Set Hai

gradeup

Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{7}$ $R = 2$



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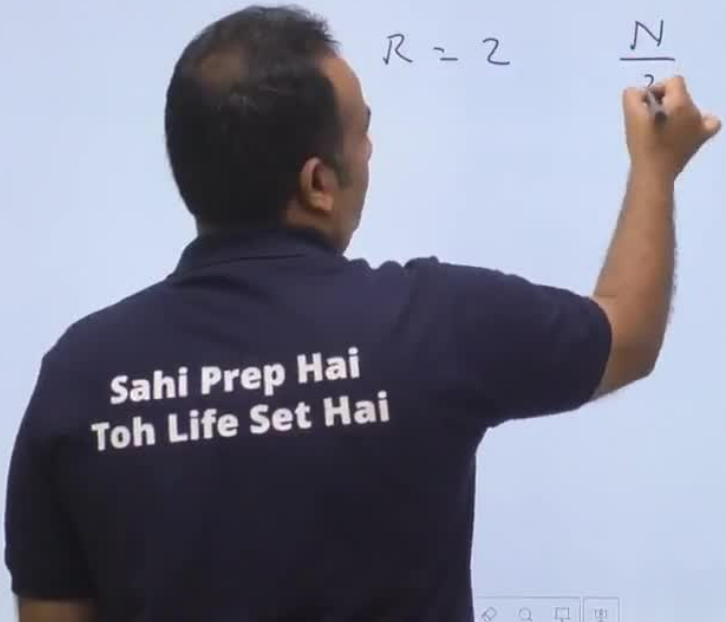
Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.



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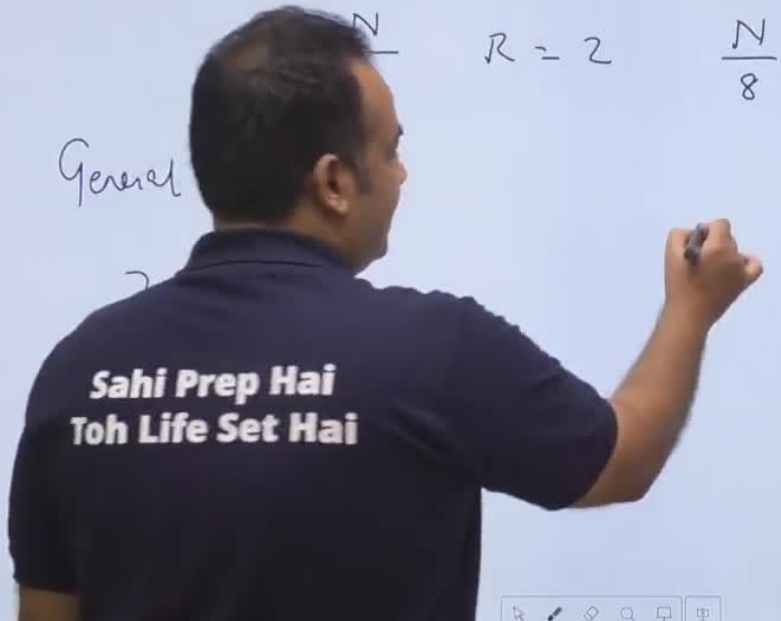
Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{}$ $R = 2$ $\frac{N}{8}$ $R = 2$

General



gradeup

Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$R = 2$ $\quad \frac{N}{8} \; R = 2$

General Form

$2 +$

9 9

Sahi Prep Hai
Toh Life Set Hai

gradeup

Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{7}$ $R = 2$ $\frac{N}{8}$ $R = 2$

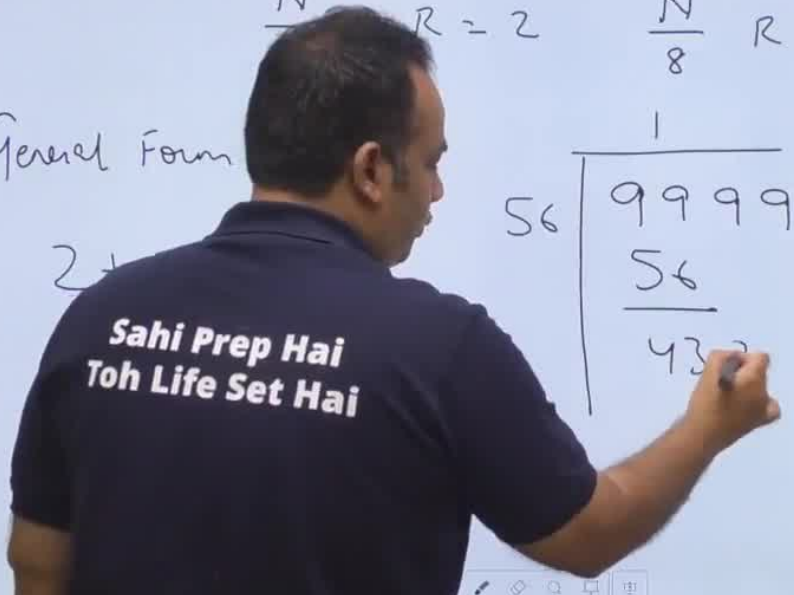
General Form

$2+$

$$56 \overline{)9999} \quad 1$$

56

43



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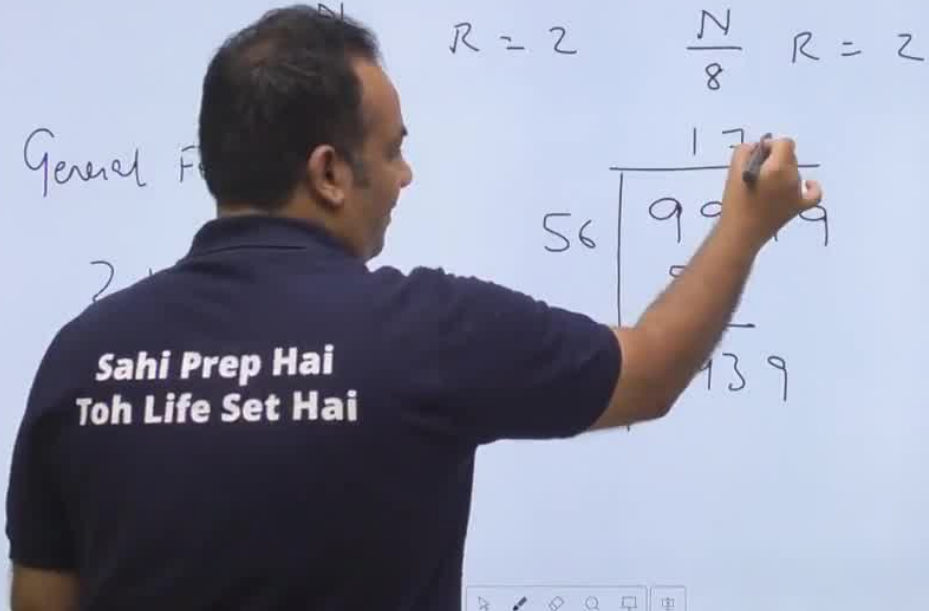

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Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{7}$ $R = 2$ $\frac{N}{8}$ $R = 2$

General Form

$2 +$

$56 \overline{)9999}$

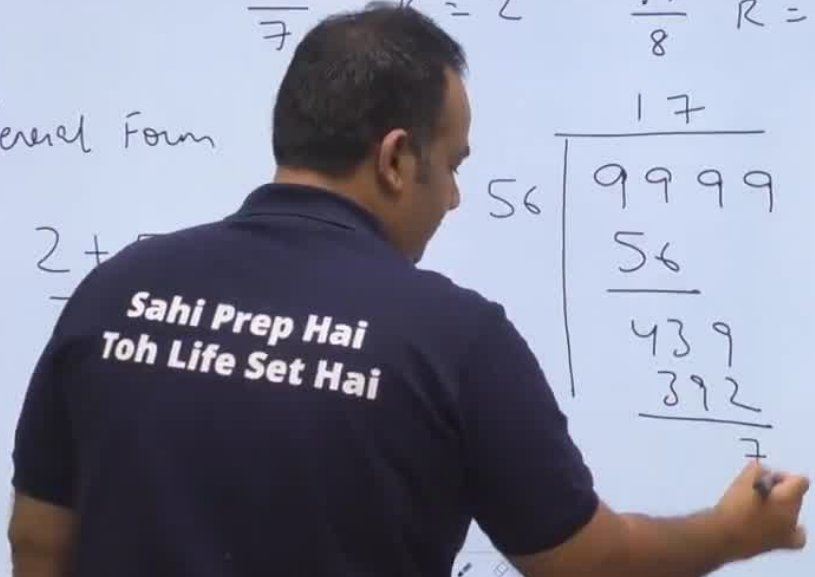
17

56

439

392

7



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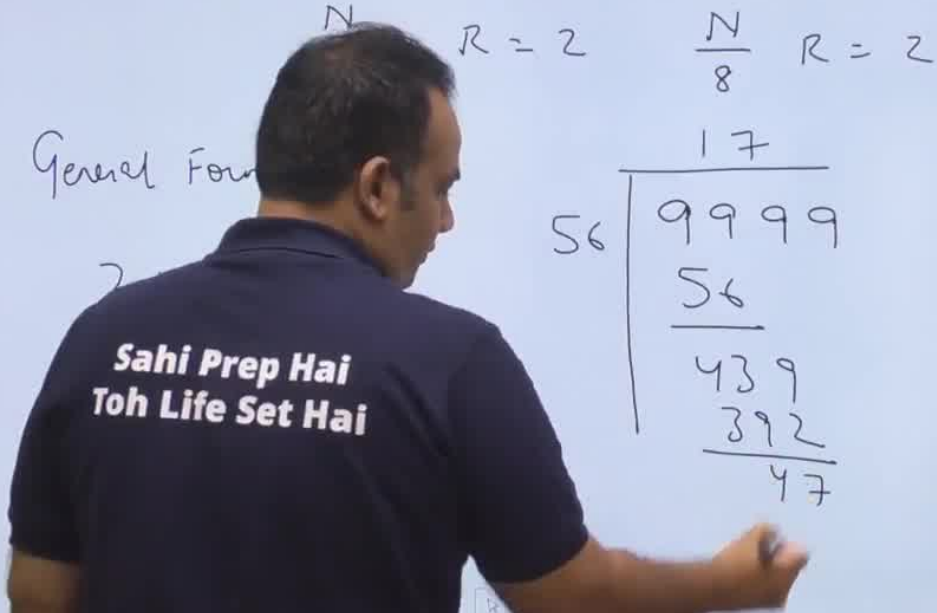
Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.



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Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{7}$ $R = 2$ $\frac{N}{8}$ $R = 2$

General Form

$2 + 5$

178

9999

56

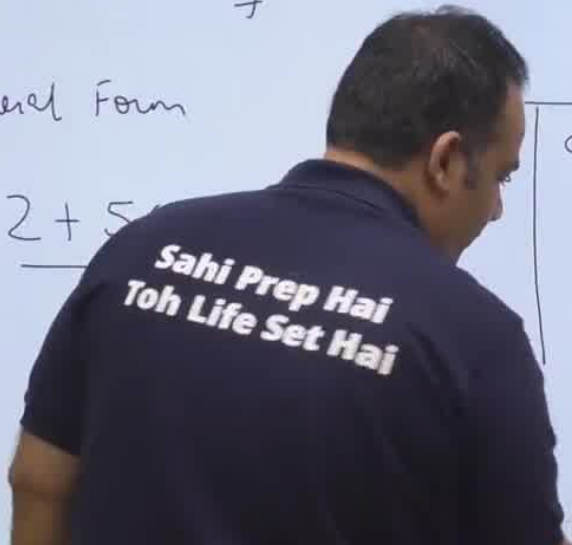
439

392

479

448

31



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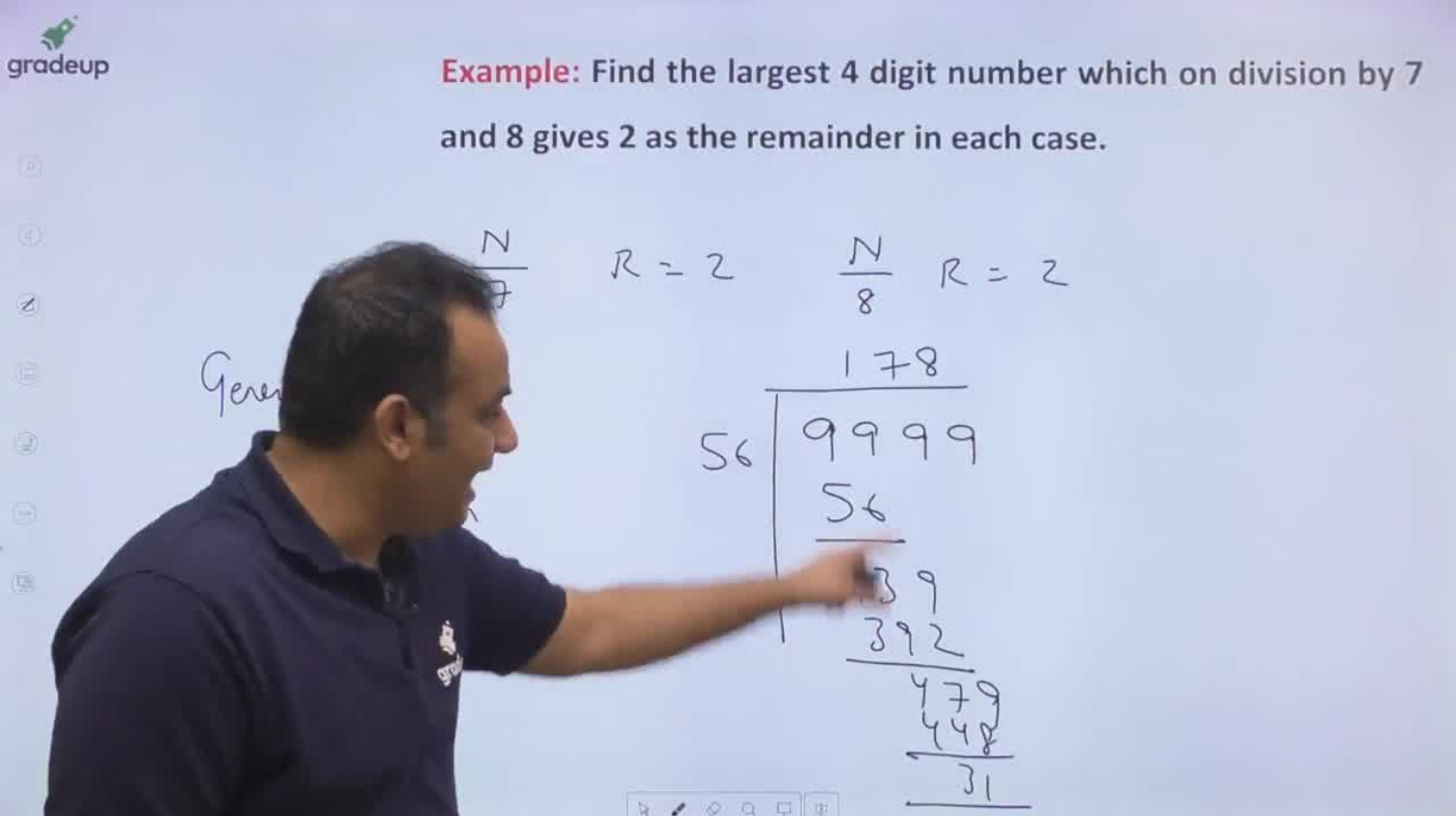

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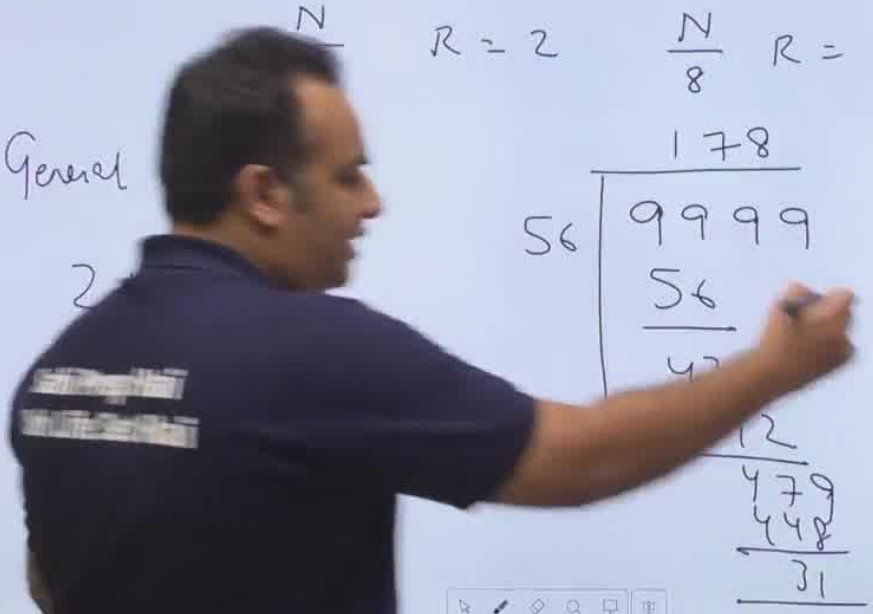

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Example: Find the largest 4 digit number which on division by 7 and 8 gives 2 as the remainder in each case.

$\frac{N}{7}$ $R = 2$ $\frac{N}{8}$ $R = 2$

General Form

$2 + 56m$

17

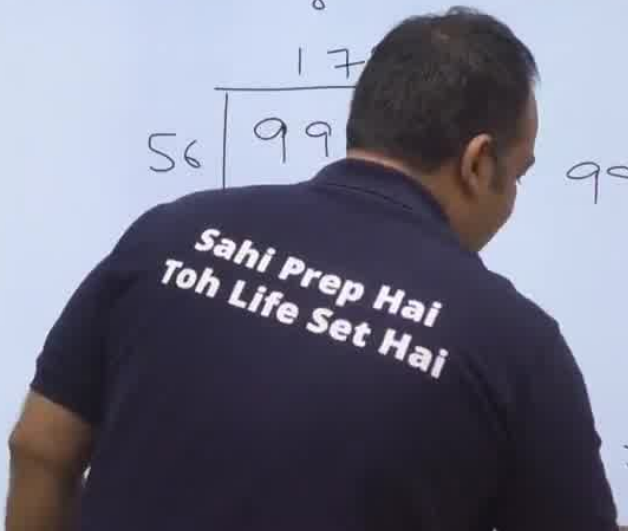
56 | 99

9999 − 31

9968

+ 2

=



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Ans: As we have seen the general form N = 56m + 2 in previous example, Now we have to find the largest 4 digit number.

$$
\begin{array}{r|l}
 & 178 \\
56 & 9999 \\
 & 56 \\
\hline
 & 439 \\
 & 392 \\
\hline
 & 479 \\
 & 448 \\
\hline
 & 31
\end{array}
$$

Largest 4 digit number is 9999

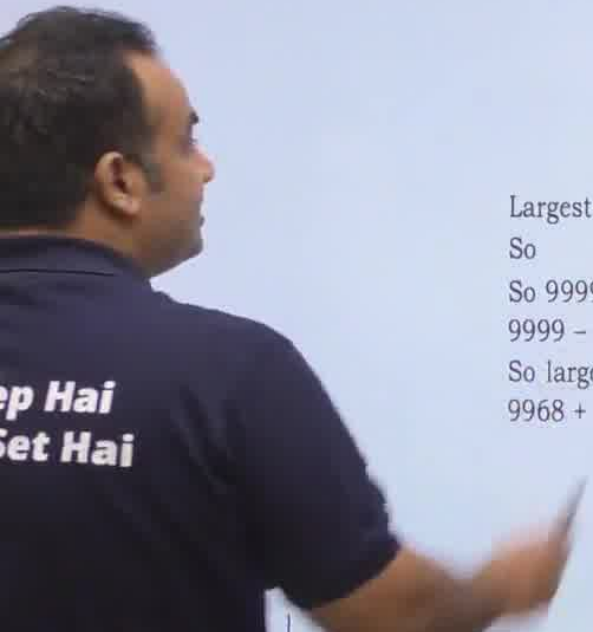
So $9999 \div 56$

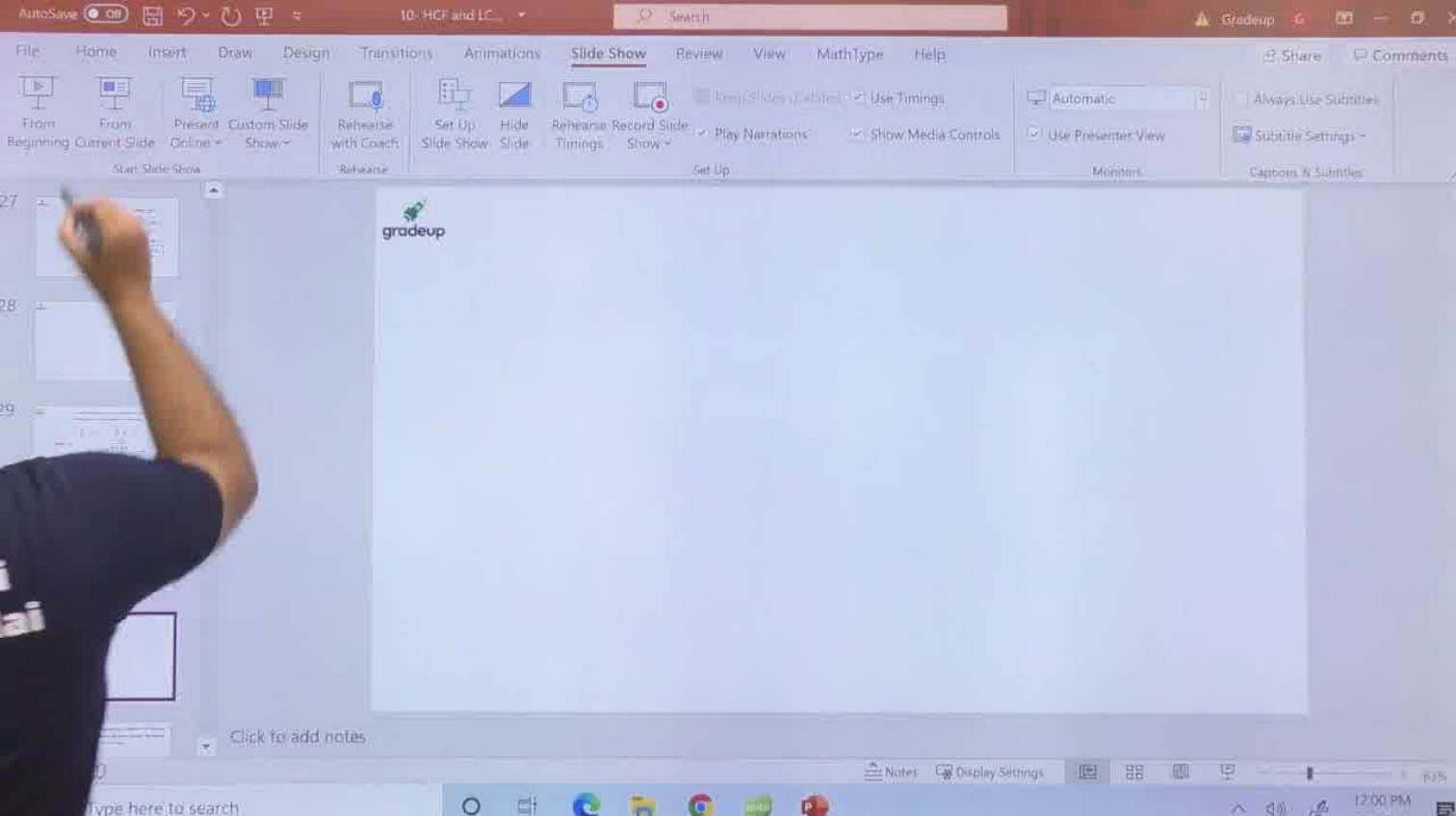
So 9999 on division by 56 gives 31 as the remainder

$9999 - 31 = 9968$ is a multiple of 56

So largest 4 digit number which satisfy the above conditions is

$9968 + 2 = 9970$

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Help
Share
Comments
From Beginning
From Current Slide
Present Online
Custom Slide Show
Start Slide Show
Rehearse with Coach
Rehearse
Set Up Slide Show
Hide Slide
Rehearse Timings
Record Slide Show
Keep Slides (Cabbie)
Use Timings
Play Narrations
Show Media Controls
Set Up
Automatic
Use Presenter View
Monitors
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Subtitle Settings
Captions & Subtitles
27
28
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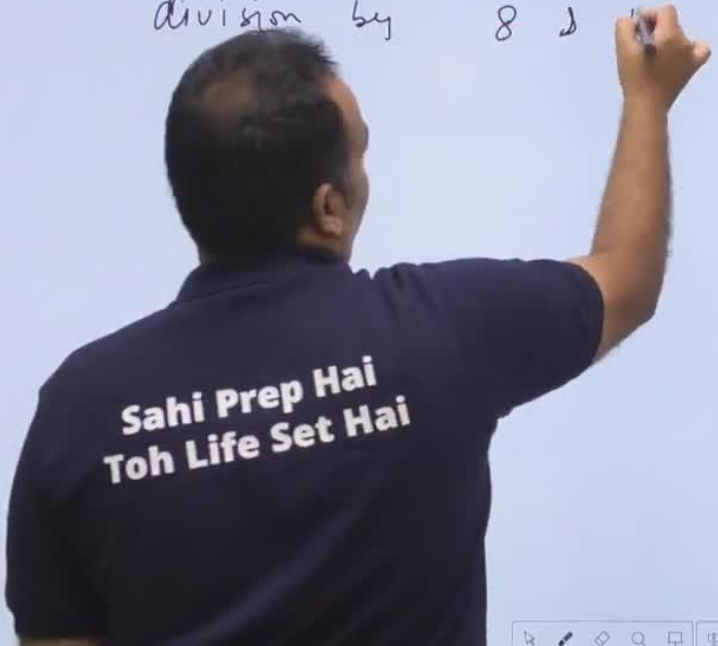
eg Find the sma

gradeup

eg Find the smallest 5 digit no which on

division by 8 s



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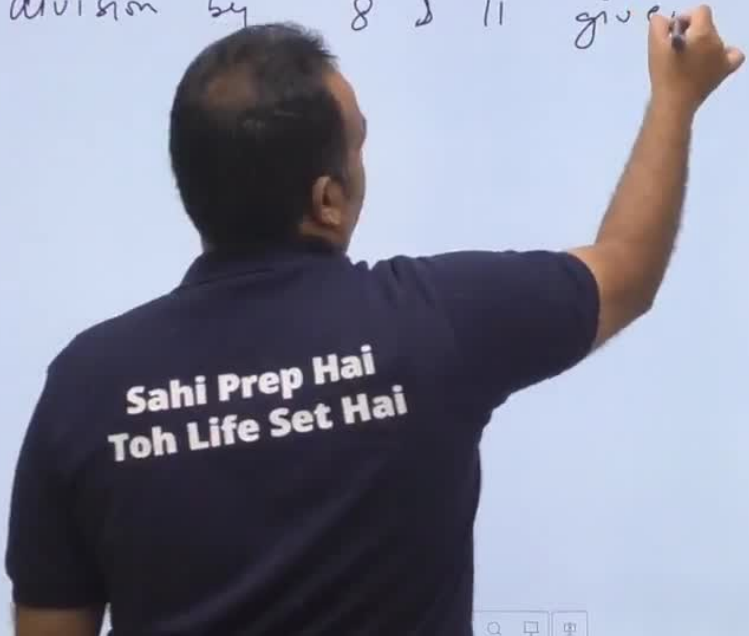
eg Find the smallest 5 digit no which on

division by 8 & 11 giv



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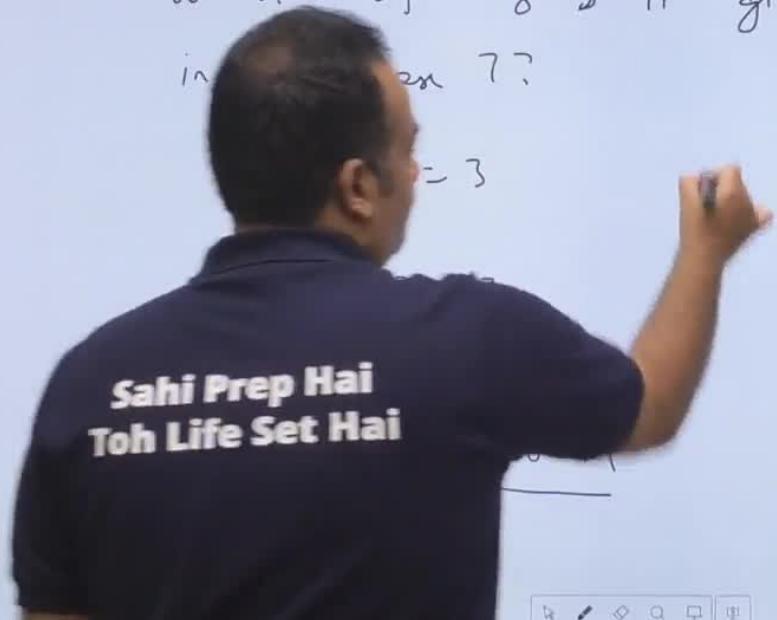
eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in ... on 7?

= 3



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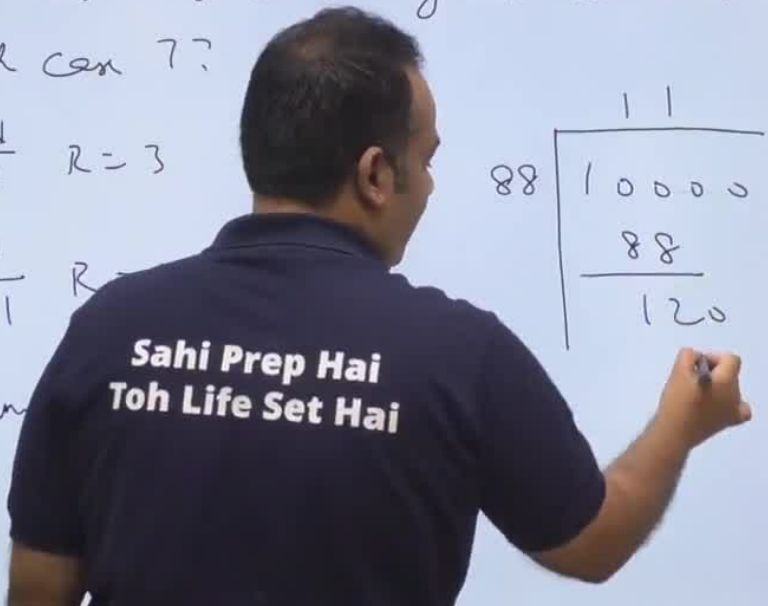
eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

$\frac{N}{8}$ $R = 3$

$\frac{N}{11}$ R

General Form

$$\begin{array}{r|l} & 11 \\ \hline 88 & 10000 \\ & 88 \\ \hline & 120 \end{array}$$



gradeup

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

$\frac{N}{8}$ $R = 3$

$\frac{N}{11}$ $R = 3$

General Form →

113

0000

88

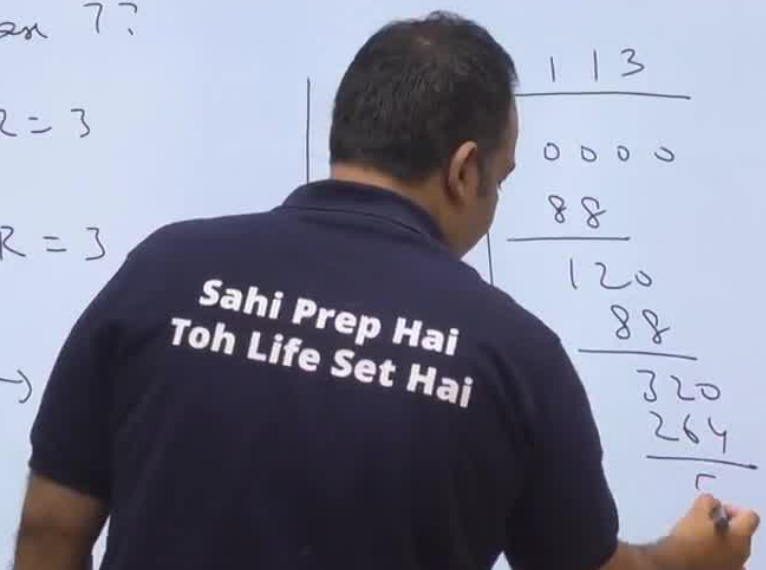
120

88

320

264

56



gradeup

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

$\frac{N}{8}$ R = 3

$\frac{N}{11}$ R = 3

88m

$$
\begin{array}{r|l}
 & 113 \\
\hline
88 & 10000 \\
 & 88 \\
\hline
 & 120 \\
 & 88 \\
\hline
 & 320 \\
 & 264 \\
\hline
 & 56 \\
\hline
\end{array}
$$

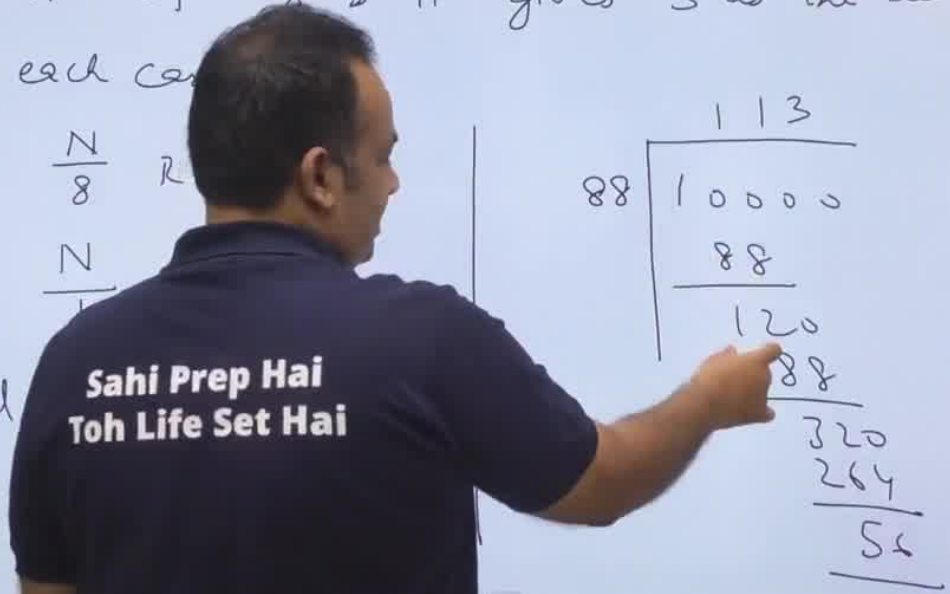
gradeup

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each ca

$\frac{N}{8}$ R

$\frac{N}{}$

Gener



113
88 | 10000
88
120
88
320
264
56

gradeup

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case

$\frac{N}{8}$ R = 3

$\frac{N}{11}$ R

General Fo

88 | 10000 (113
88
120
88
32
264
56

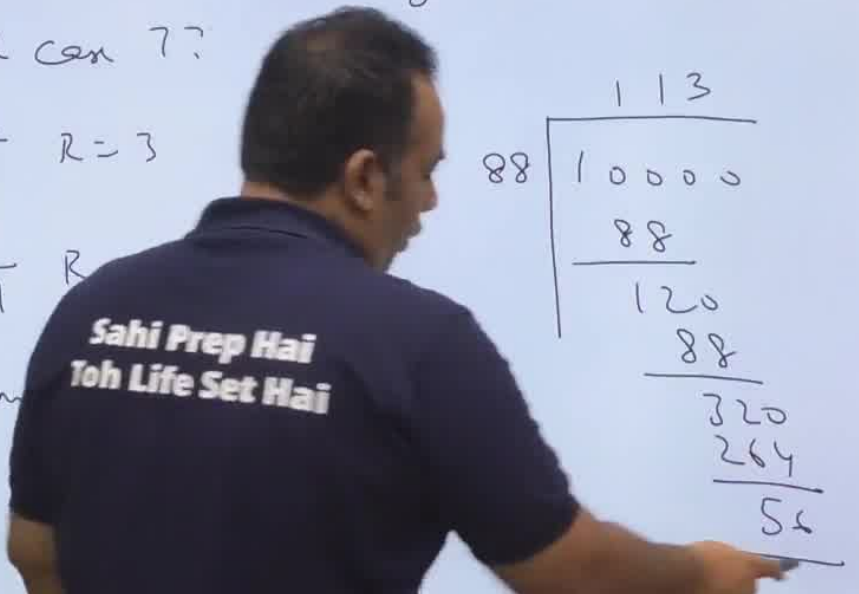
eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

$\frac{N}{8}$ R = 3

$\frac{N}{11}$ R

General Form

$$
\begin{array}{r|l}
 & 113 \\
\hline
88 & 10000 \\
 & 88 \\
\hline
 & 120 \\
 & 88 \\
\hline
 & 320 \\
 & 264 \\
\hline
 & 56
\end{array}
$$

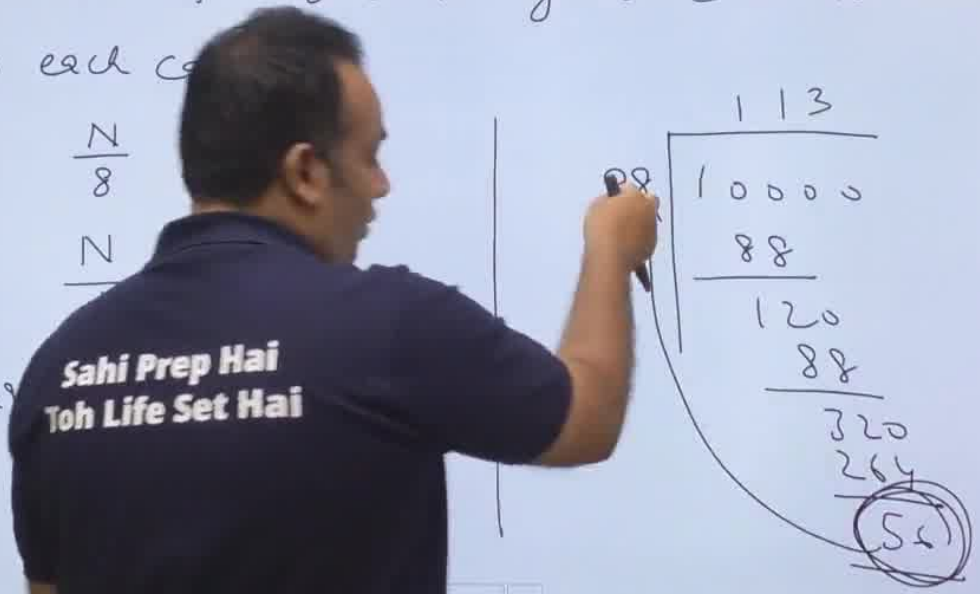


eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each ca

$\frac{N}{8}$

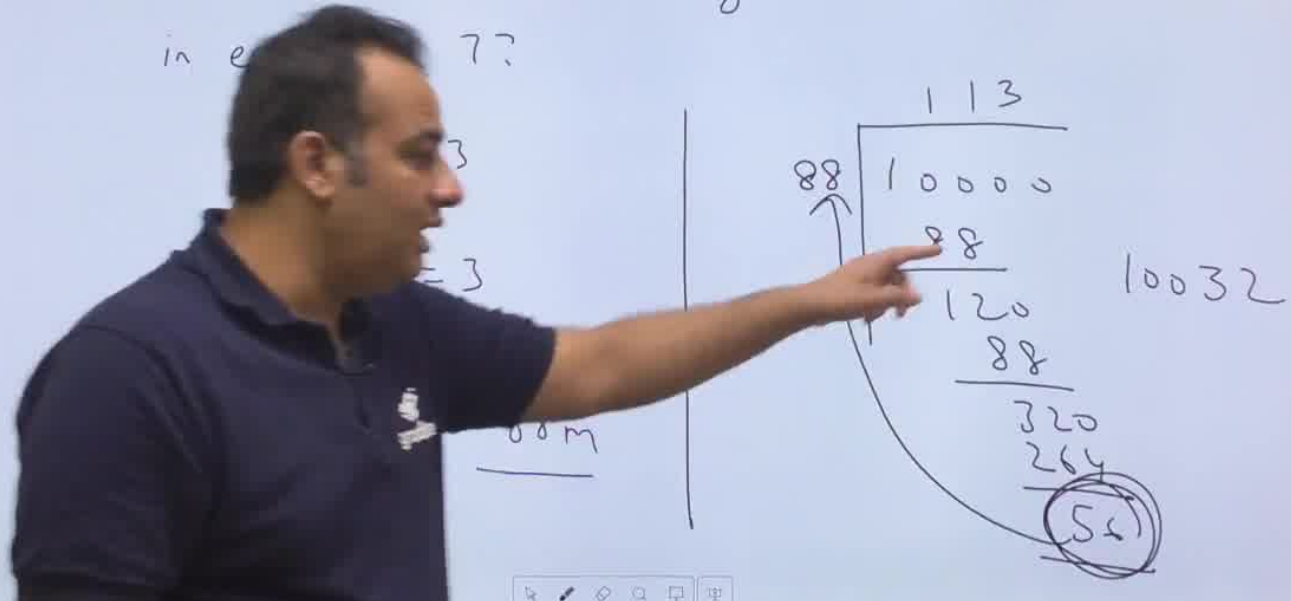
$\frac{N}{}$

Gen



113
88 | 10000
88
120
88
320
264
56

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in e 7?



eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

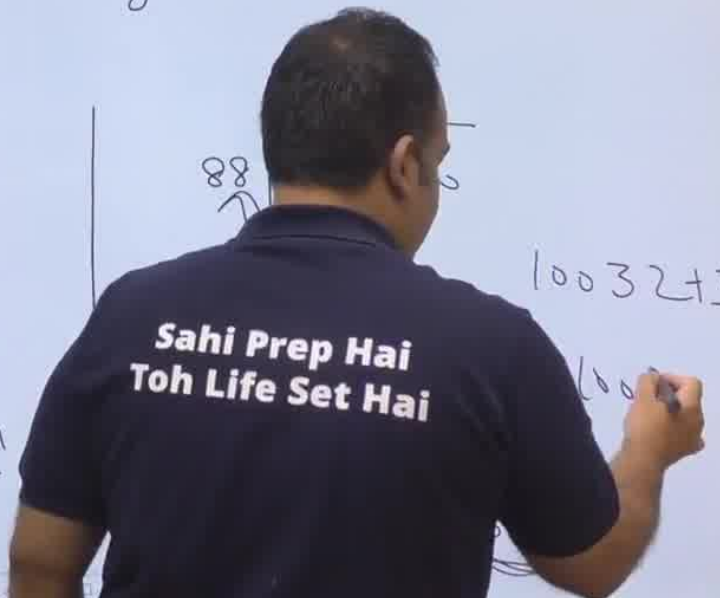
$\frac{N}{8}$ $R=3$

$\frac{N}{11}$ $R=3$

General Form → $3+88m$

88

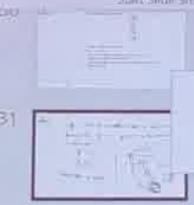
10032+3



gradeup

Case II : When the remainders are different for different divisors but the respective difference between the divisors and the remainders remain constant.

Example: What is the least possible number which when divided by 7 or 8 leaves a remainder of 3 and 4 respectively.



gradeup

the smallest 5 digit no which on

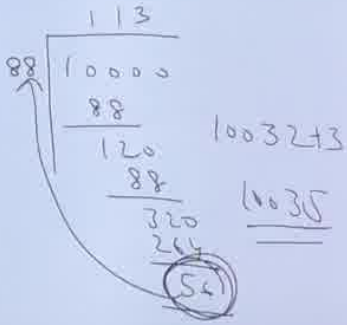
8 & 11 gives 3 as the remainder

in each case ?

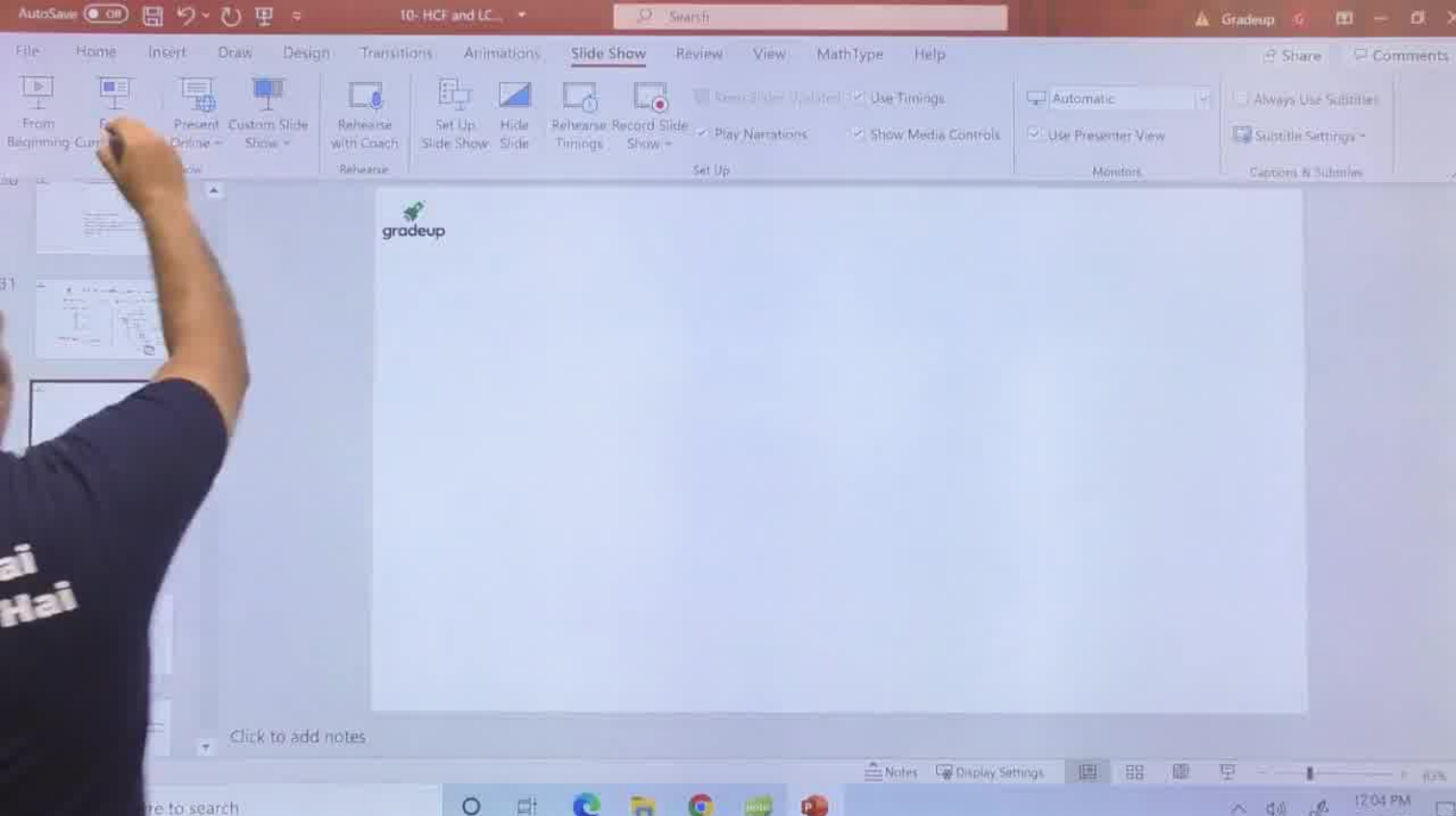
$\frac{N}{8}$ R = 3

$\frac{N}{11}$ R = 3

General Form → 3+88m



Click to add notes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Help
Share
Comments
From Beginning
Present Online
Custom Slide Show
Rehearse with Coach
Set Up Slide Show
Hide Slide
Rehearse Timings
Record Slide Show
Use Timings
Play Narrations
Show Media Controls
Automatic
Use Presenter View
Always Use Subtitles
Subtitle Settings
Set Up
Monitors
Captions & Subtitles
gradeup
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12:04 PM

What smallest no. sh

$$8 \overline{)\,21\,(\,2} \quad 16$$

gradeup

What smallest no. should be added to 21 so that it become a multiple of 8

$$8 \overline{)21} \quad 2$$
$$16$$
$$5$$

$$21 + 3$$

$$= 24$$

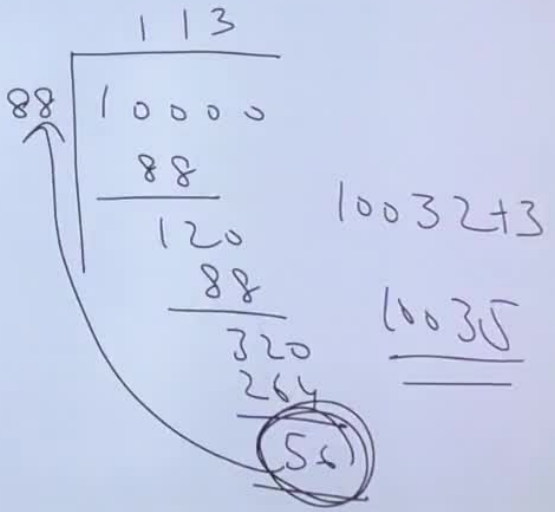
gradeup

eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case?

$\frac{N}{8}$ R = 3

$\frac{N}{11}$ R = 3

General Form → 3+88m

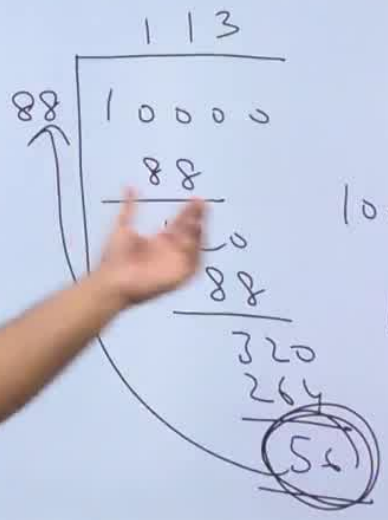


eg Find the smallest 5 digit no which on division by 8 & 11 gives 3 as the remainder in each case

$\frac{N}{8}$ R=

$\frac{N}{11}$

General F



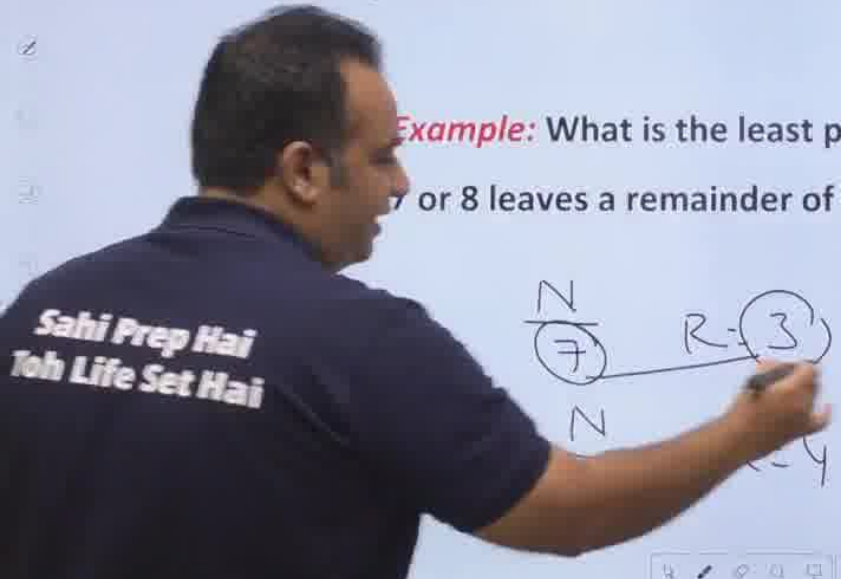
10032+3

10035

gradeup

Case II : When the remainders are different for different divisors but the respective difference between the divisors and the remainders remain constant.

Example: What is the least possible number which when divided by 7 or 8 leaves a remainder of 3 and 4 respectively.



gradeup

Case II : When the remainders are different for different divisors but the respective difference between the divisors and the remainders remain constant.

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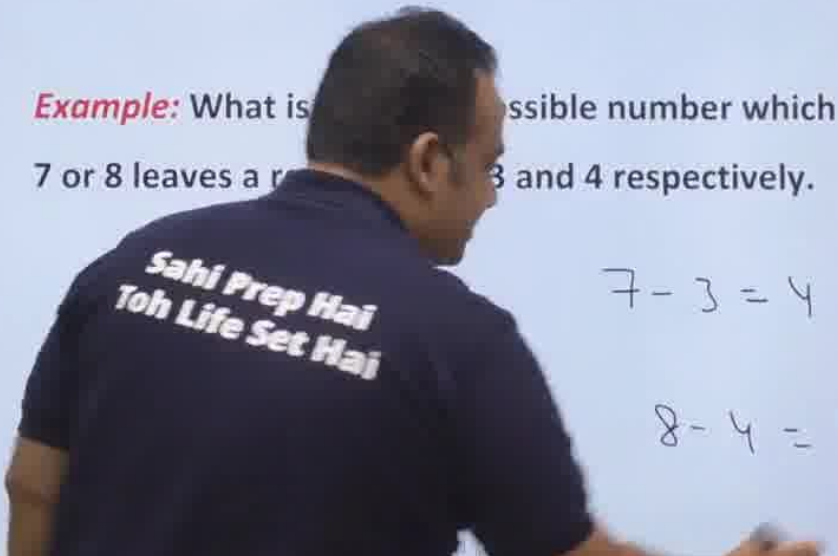


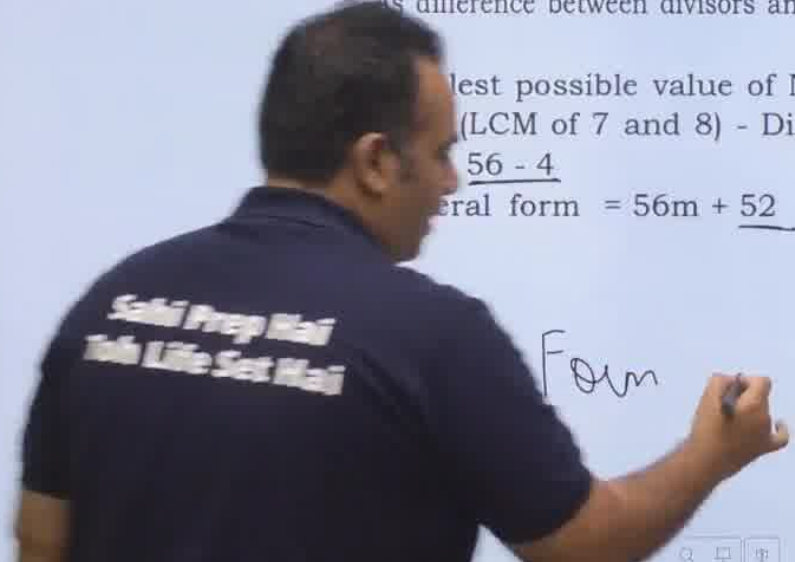
gradeup

Ans:

		Difference
$\frac{N}{7}$	Remainders = 3	7-3 = 4
$\frac{N}{8}$	Remainders = 4	8-4 = 4

As difference between divisors and remainders is same, So Case II can be used.

lest possible value of N
(LCM of 7 and 8) - Difference
56 - 4
eral form = 56m + 52



gradeup

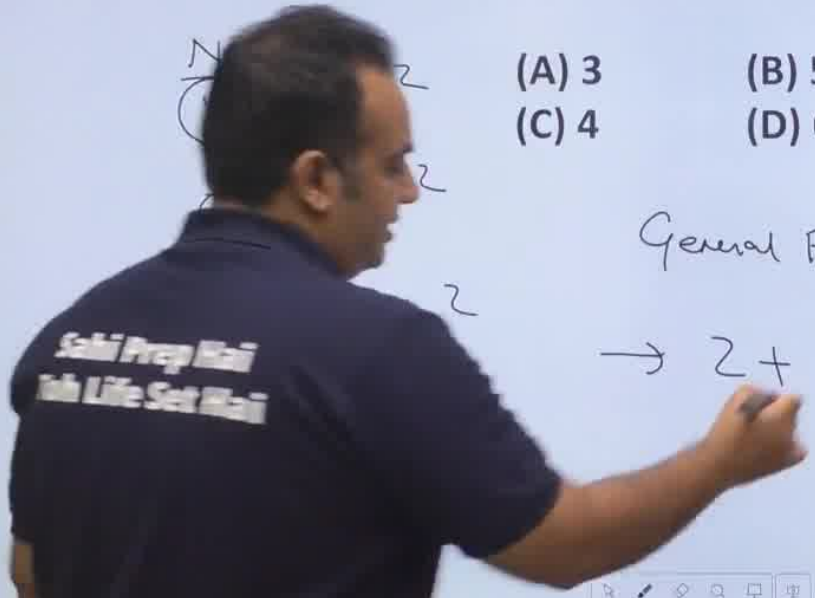
LCM
Con-I

4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.

(A) 3 (B) 5
(C) 4 (D) 6

General Form

→ 2+



gradeup

LCM
Con-I

4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.

(B) 5
(D) 6

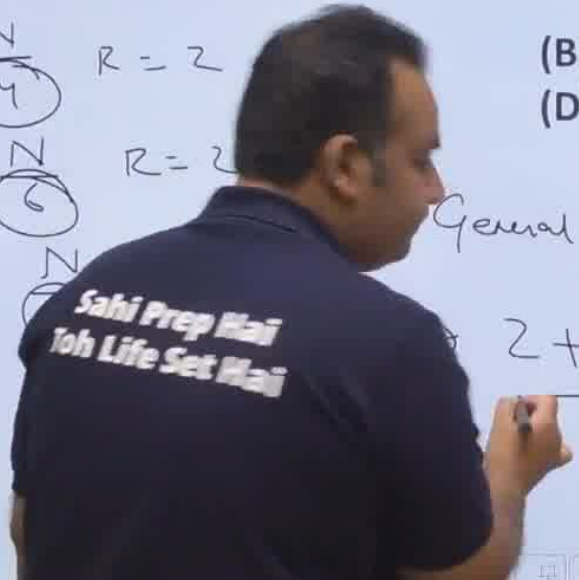
N/4 R = 2

N/6 R = 2

N/

General Form

2 + 60m



gradeup

LCM
Con-I

4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.

(A) 3 (B) 5
(C) 4 (D) 6

R = 2

R = 2

R = 2

General Form

→ 2 + 60m

166
60 | 10000
60
400
360
400
360
40

10020 +

gradeup

LCM
Con-I

4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.

(A) 3 (B) 5
(C) 4 (D) 6

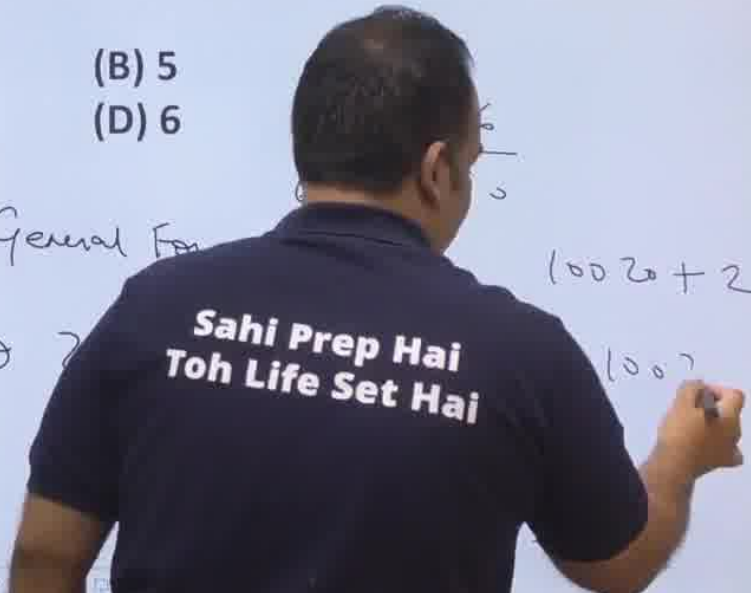
N (4) R = 2
N (6) R = 2
N (10) R = 2
N (15) R = 2

General Fo

→ 2

1002 + 2

1002



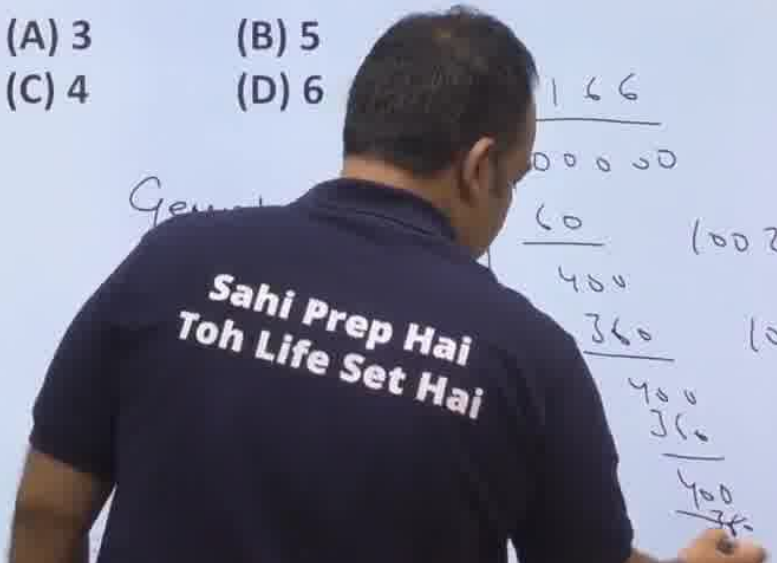
gradeup

LCM
Con-I

4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.

(A) 3 (B) 5
(C) 4 (D) 6

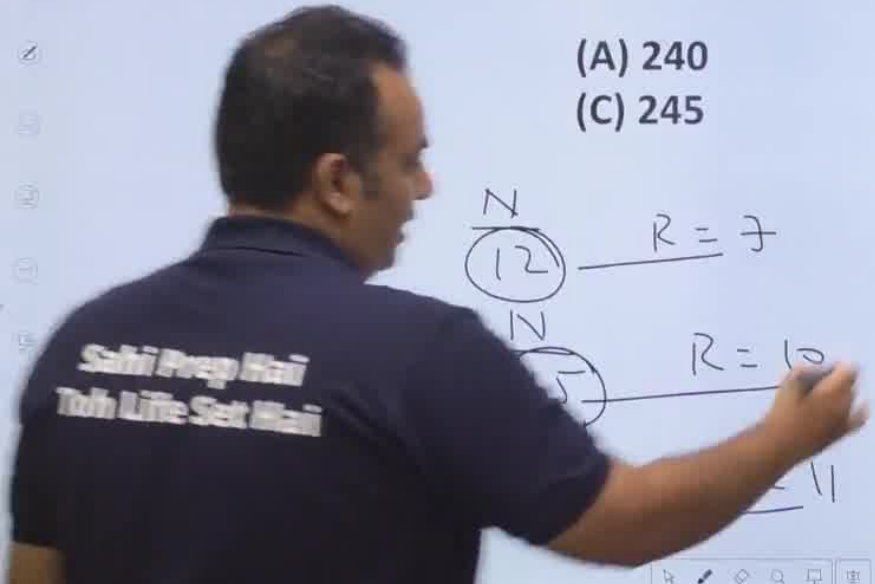
N / 4 R = 2
N / 6 R = 2
N / 10 R = 2
N / 15 R = 2



gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

(A) 240
(B) 235
(C) 245
(D) 260



gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

(A) 240
(B) 235
(C) 245
(D) 260

R = 7

R = 10

R = 11

LCM(12, 15, 16) - 5

240 - 5

= 235

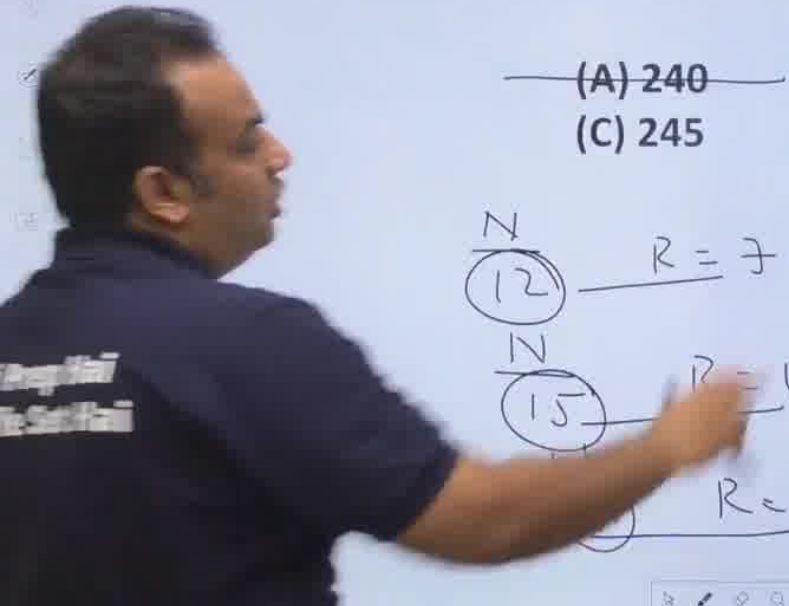
Sahi Prep Hai
Toh Life Set Hai

gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

~~(A) 240~~ ~~(B) 235~~

(C) 245 ~~(D) 260~~



N / 12 — R = 7

N / 15 — R = 10

R = 11

LCM(12, 15, 16) − 5

240 − 5

= 235

gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

(A) 240
(B) 235
245
60

LCM(12, 15, 16) - 5

240 - 5

= 235

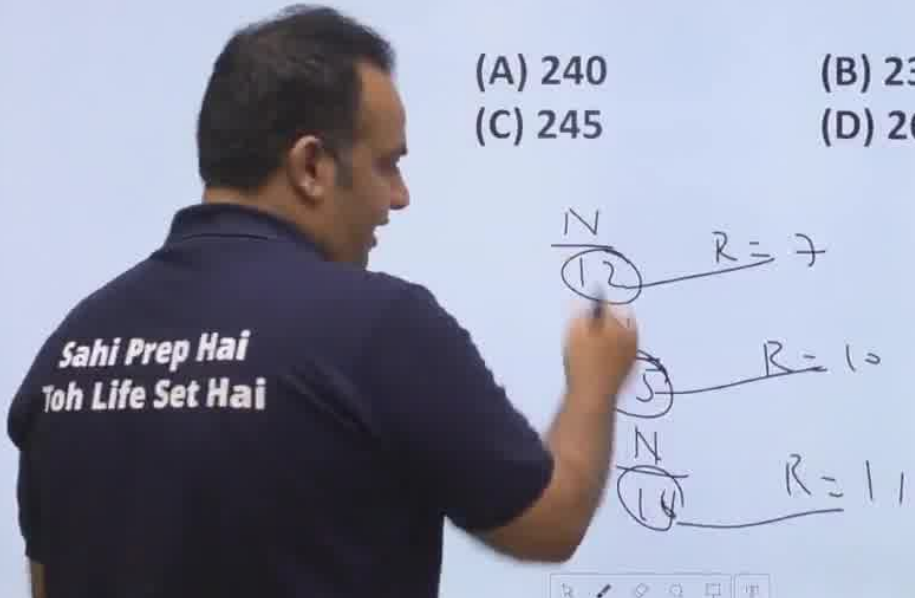
R = 11

Sahi Prep Hai
Toh Life Set Hai

gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

(A) 240 (B) 235
(C) 245 (D) 260



gradeup

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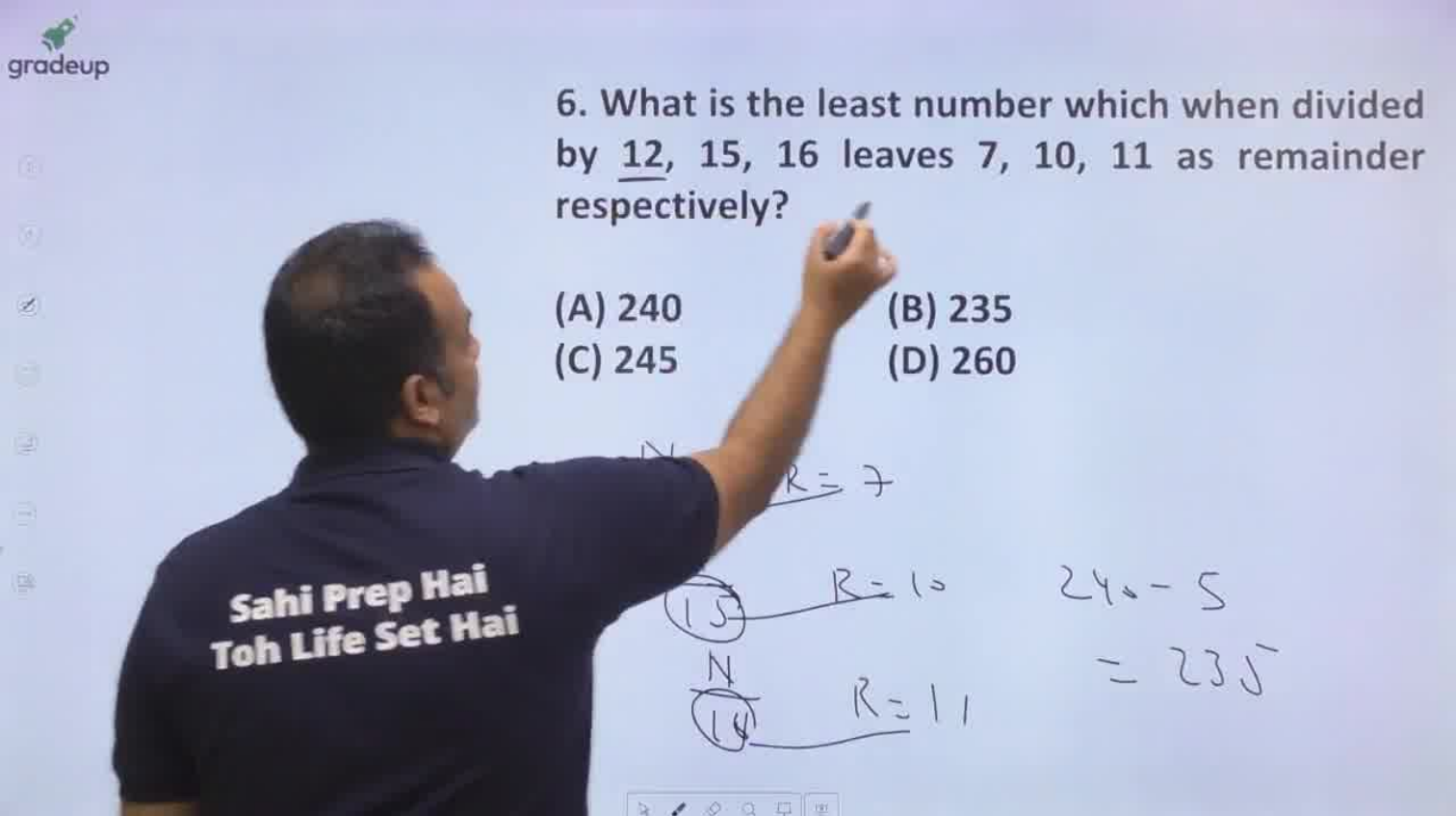
(A) 240 (B) 235
(C) 245 (D) 260



gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

12x + 7

4 R = 3

(B) 2

(D)

R = 7

R = 11

240 - 5

= 235

Sahi Prep Hai
Toh Life Set Hai

gradeup

What smallest no should be added to 21 so that it become a multiple of 8

$$8 \overline{)21} \quad 2$$
$$16$$
$$5$$

$$21 + 3$$

$$= 24$$

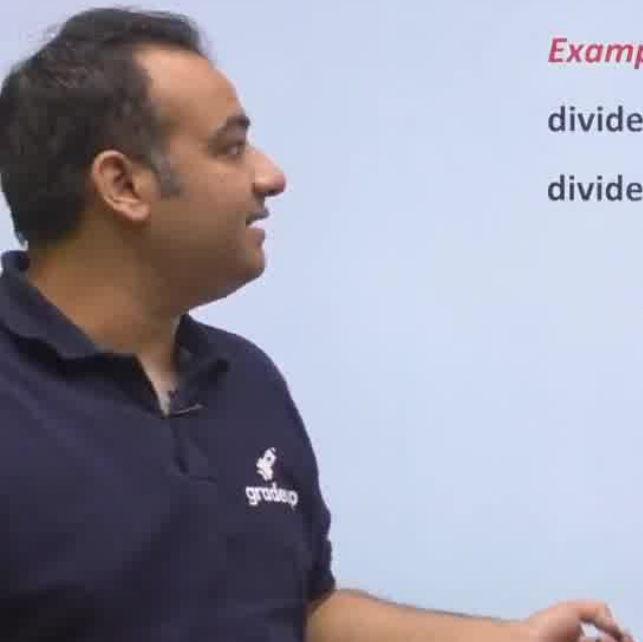
gradeup

Case III : No condition

Example: What is the least possible number which when divided by 13 leaves the remainder 3 and when it is divided by 5 leaves the remainder 2.

$\frac{N}{13}$ $R = 3$

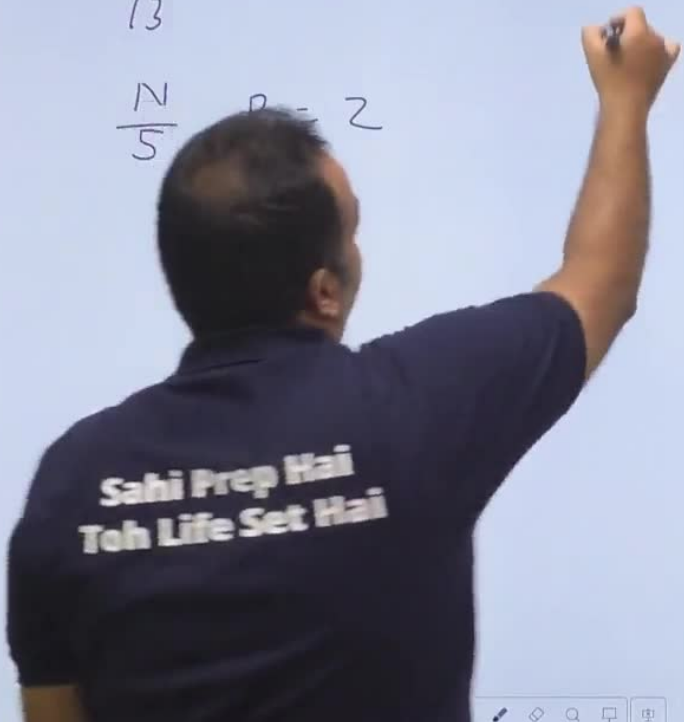
$\frac{N}{5}$ $R = 2$



gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$



gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$

$13x + 3 = 5y + 2$

gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

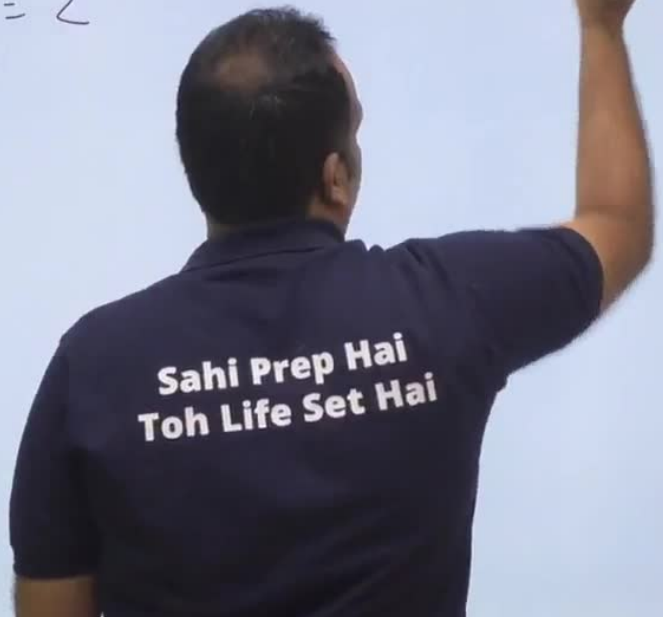
$13x + 3 = 5y + 2$

gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$



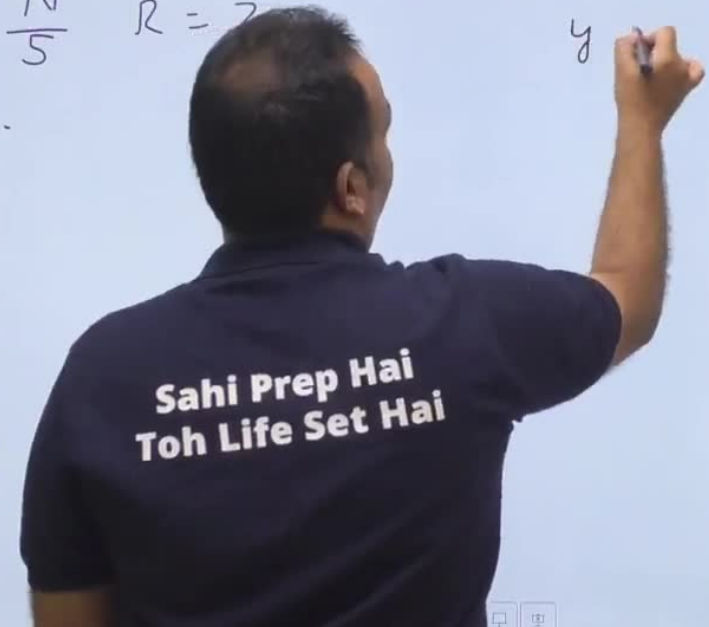
gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

y



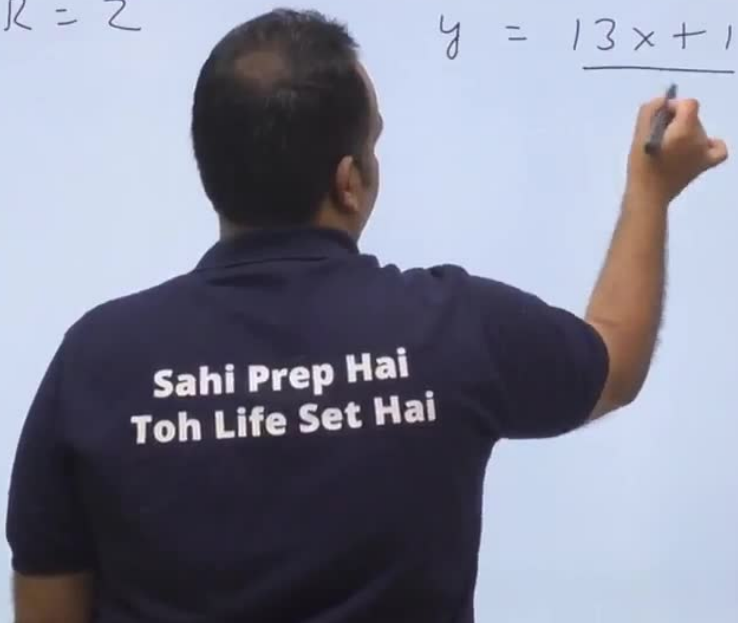
gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

$y = \frac{13x + 1}{}$



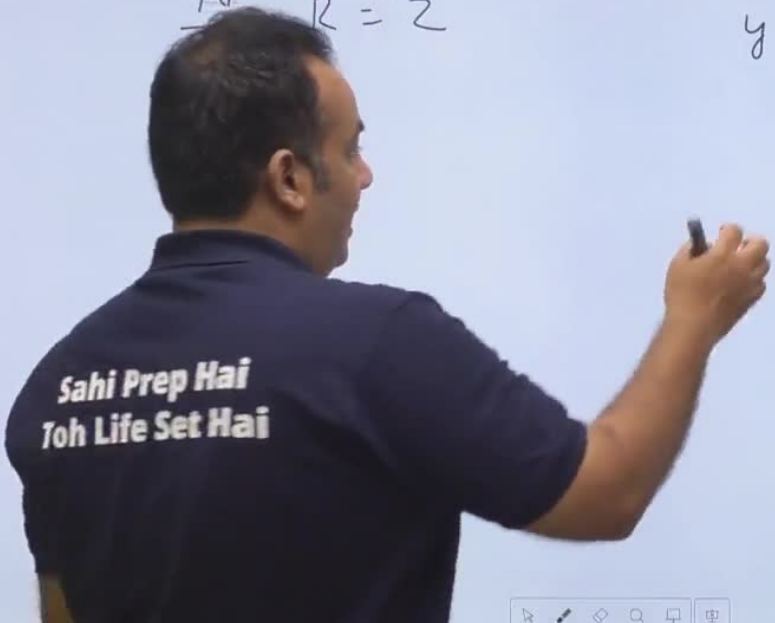
gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

$y = \frac{13x + 1}{5}$



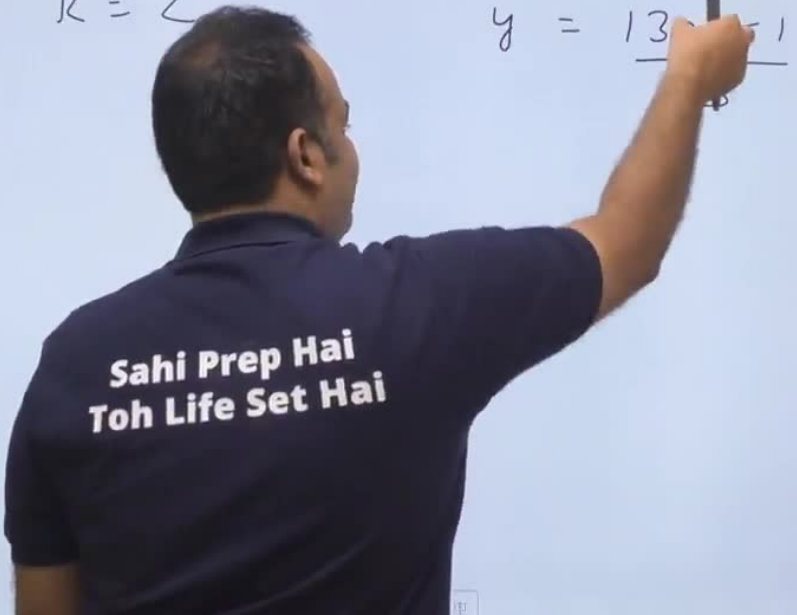
gradeup

$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

$y = 13$ [illegible] 1



gradeup

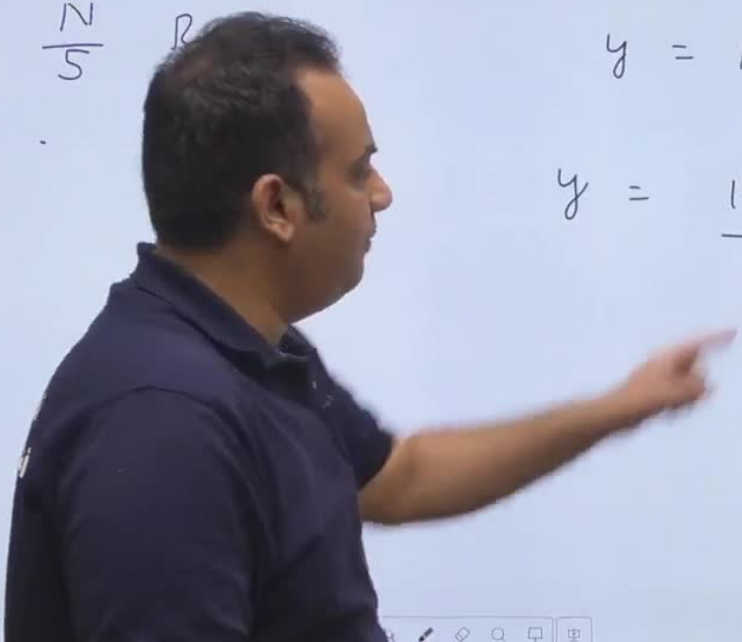
$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ R

$13x + 3 = 5y + 2$

$y = \frac{13x + 1}{5}$

$y = \frac{10x + (3x + 1)}{5}$



gradeup

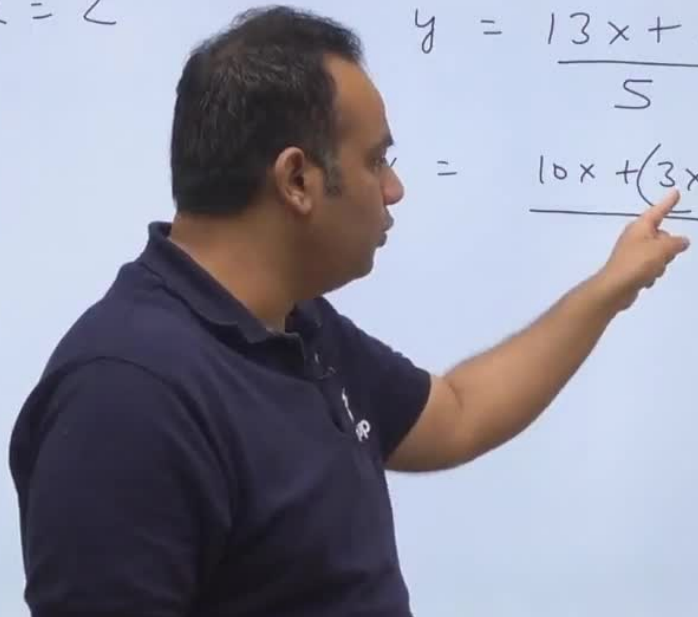
$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

$y = \frac{13x + 1}{5}$

$= \frac{10x + (3x + 1)}{}$



gradeup

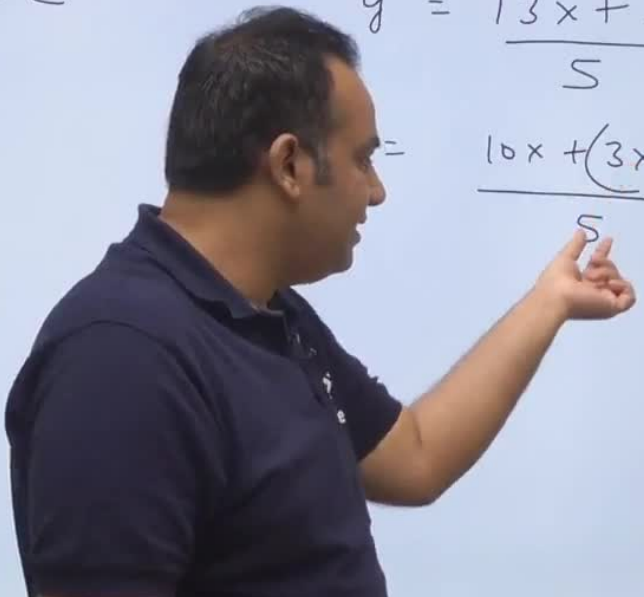
$\frac{N}{13}$ $R = 3$

$\frac{N}{5}$ $R = 2$

$13x + 3 = 5y + 2$

$y = \frac{13x + 1}{5}$

$= \frac{10x + (3x + 1)}{5}$



gradeup

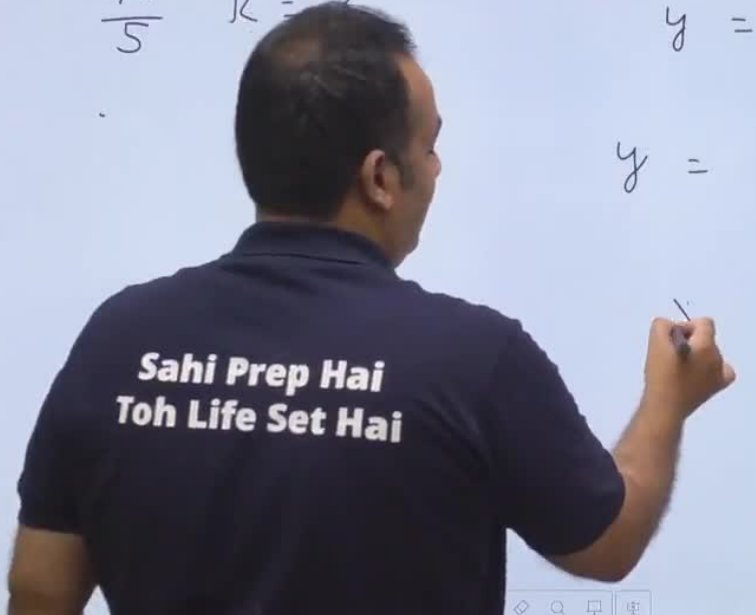
$\frac{N}{13}$ $R = 3$

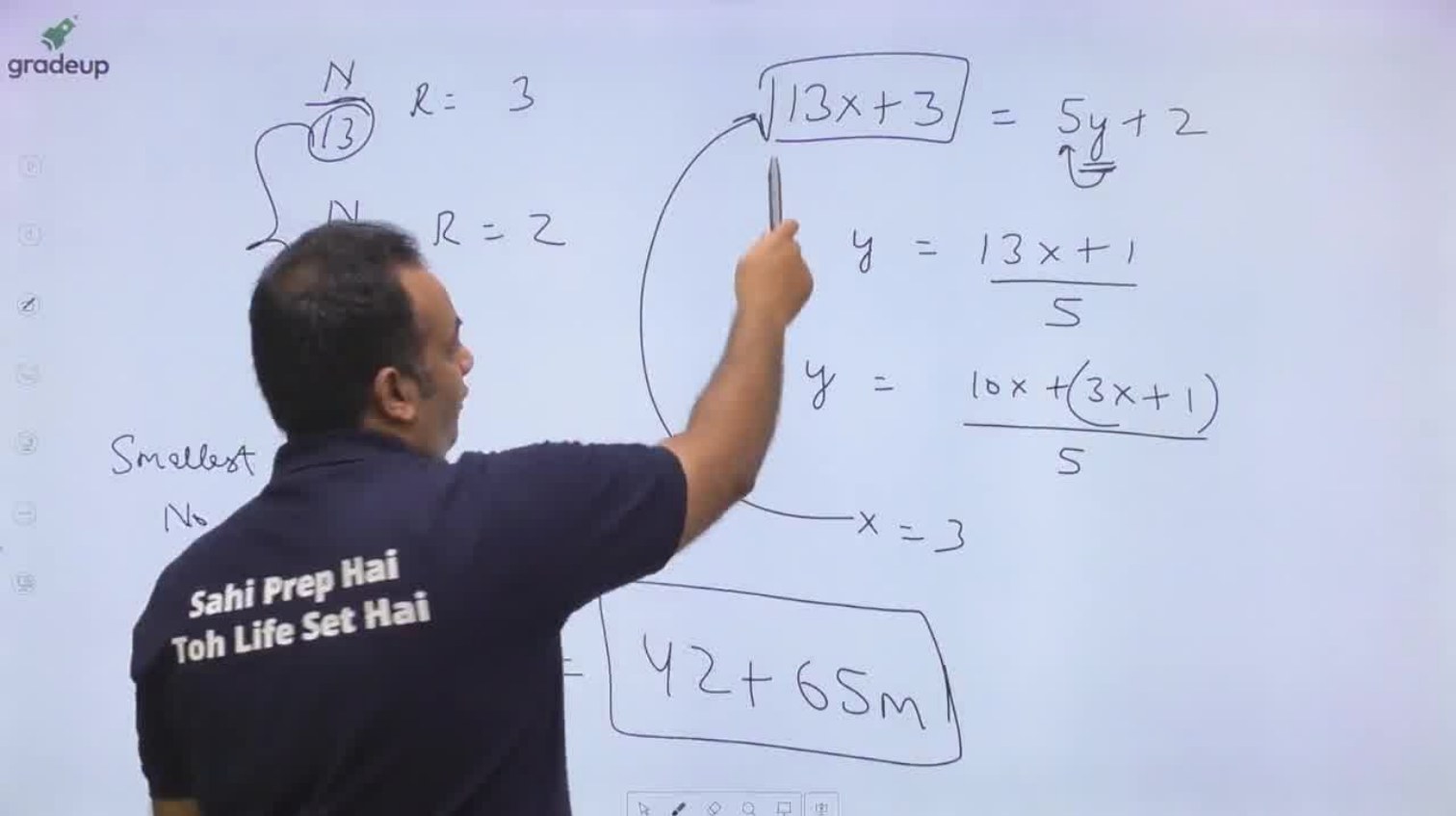
$\frac{N}{5}$ $R = 2$

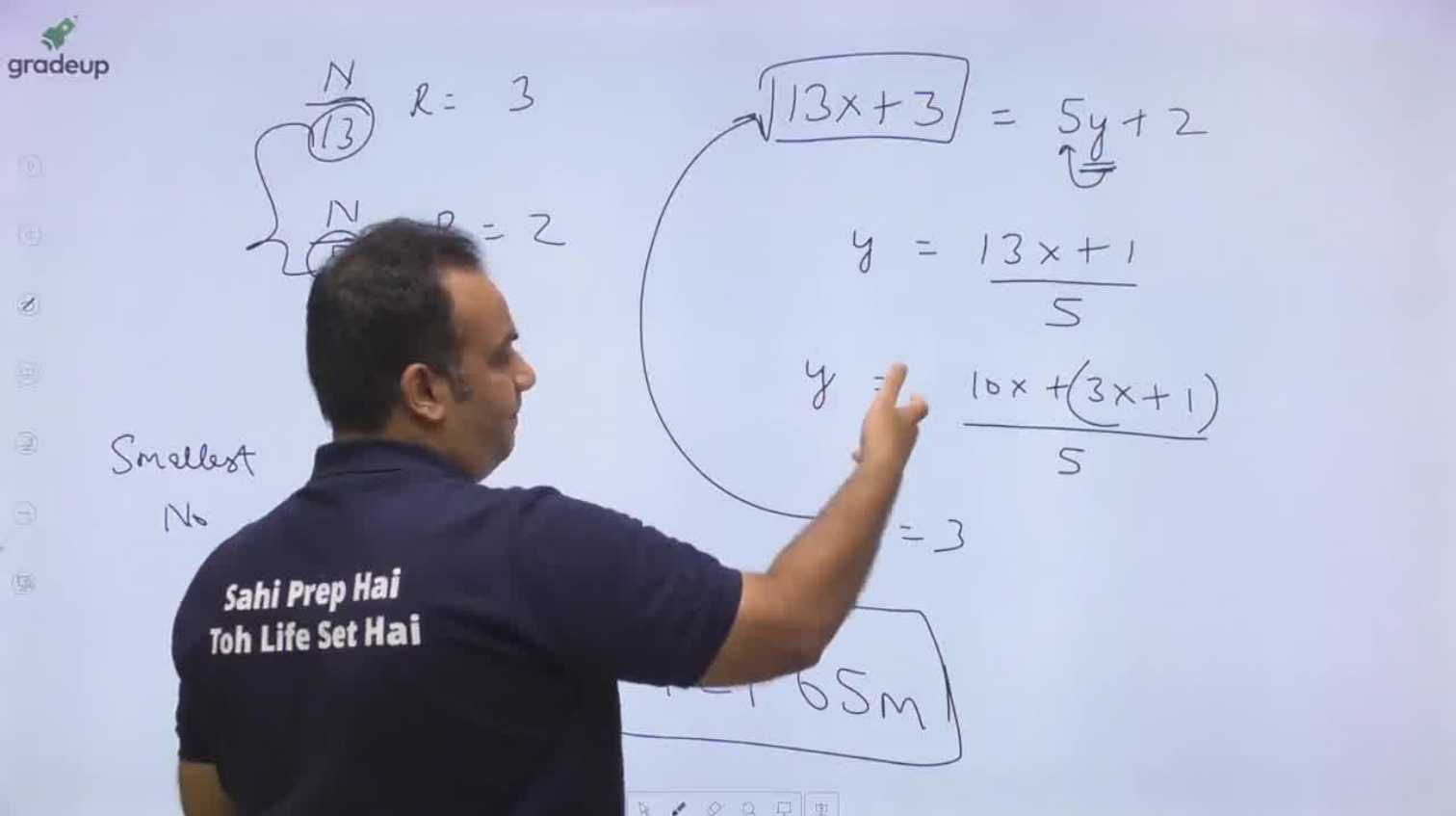
$13x + 3 = 5y + 2$

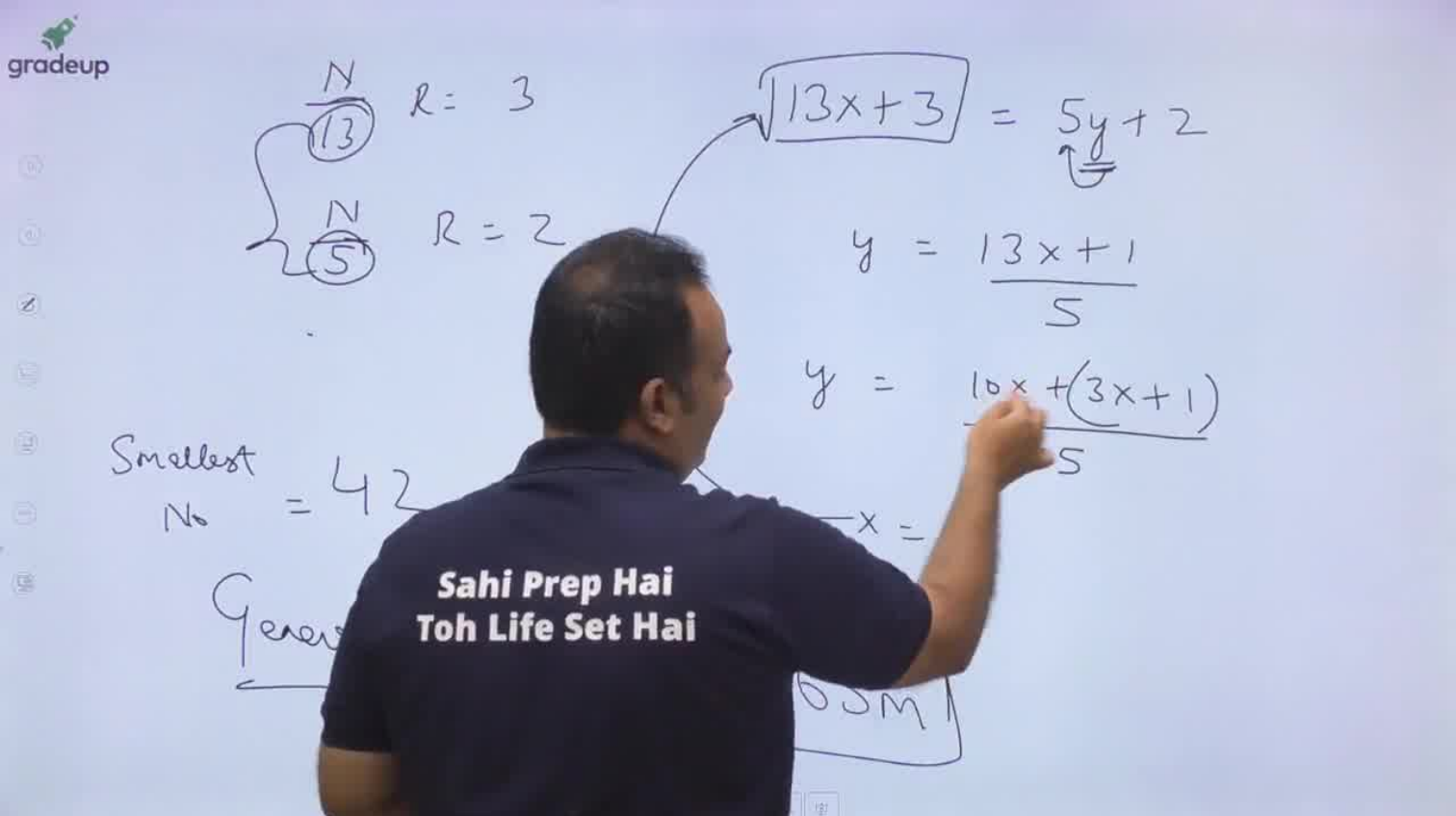
$y = \frac{13x + 1}{5}$

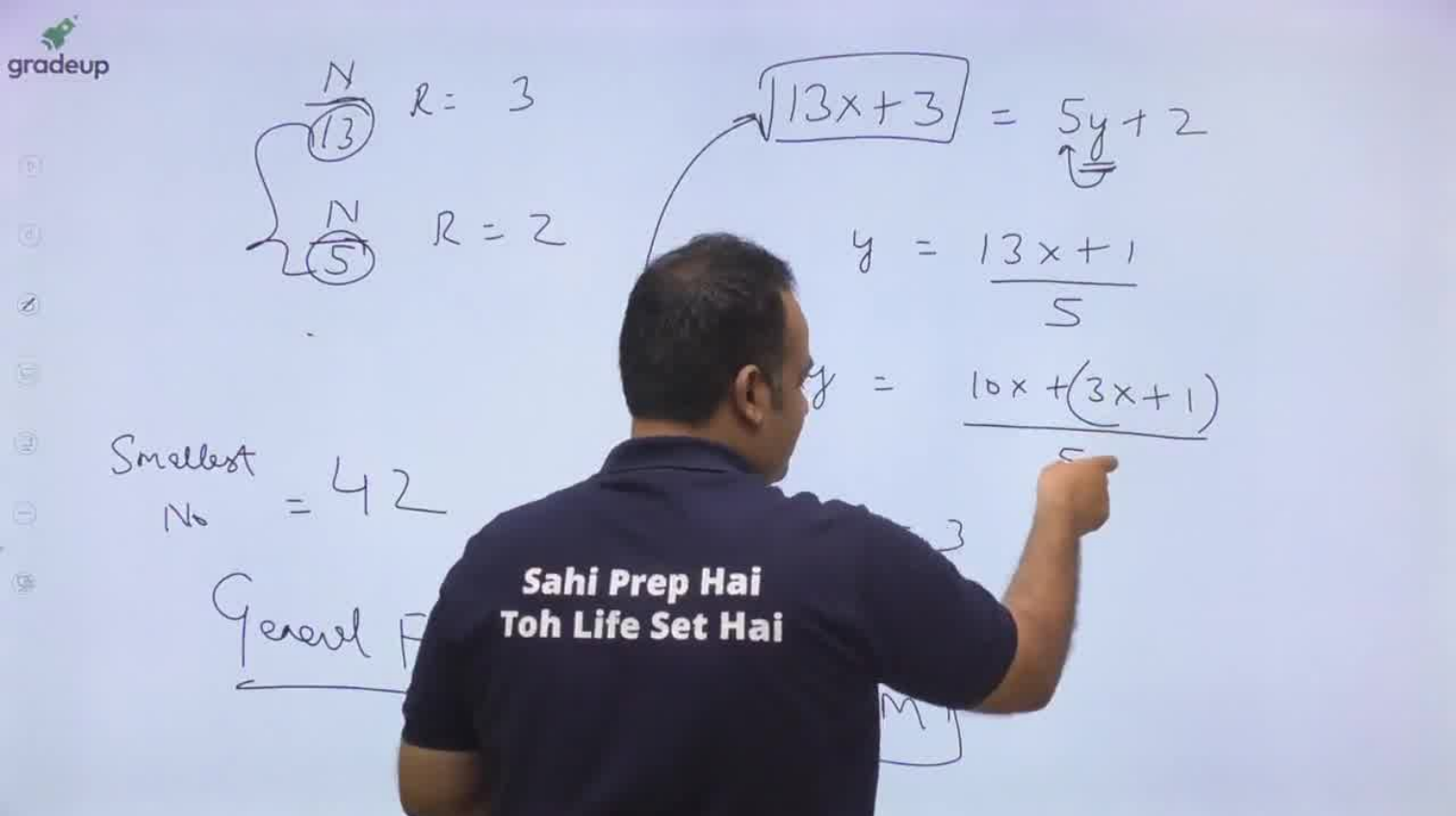
$y = \frac{10x + (3x + 1)}{5}$




gradeup
N
13
R = 3
N
R = 2
13x+3 = 5y+2
y = 13x+1 / 5
y = 10x + (3x+1) / 5
x = 3
Smallest
No
42+65m
Sahi Prep Hai
Toh Life Set Hai


gradeup
N
13
R = 3
N
R = 2
13x+3 = 5y+2
y = 13x+1 / 5
y = 10x + (3x+1) / 5
Smallest
No
= 3
Sahi Prep Hai
Toh Life Set Hai


gradeup
N
13
R = 3
N
5
R = 2
13x+3 = 5y+2
y = 13x+1 / 5
y = 10x + (3x+1) / 5
Smallest No = 42
Sahi Prep Hai
Toh Life Set Hai


gradeup
N
13
R = 3
N
5
R = 2
13x+3 = 5y+2
y = 13x+1 / 5
y = 10x + (3x+1) / 5
Smallest No = 42
Sahi Prep Hai
Toh Life Set Hai

gradeup

$\frac{N}{17}$ $R = 15$

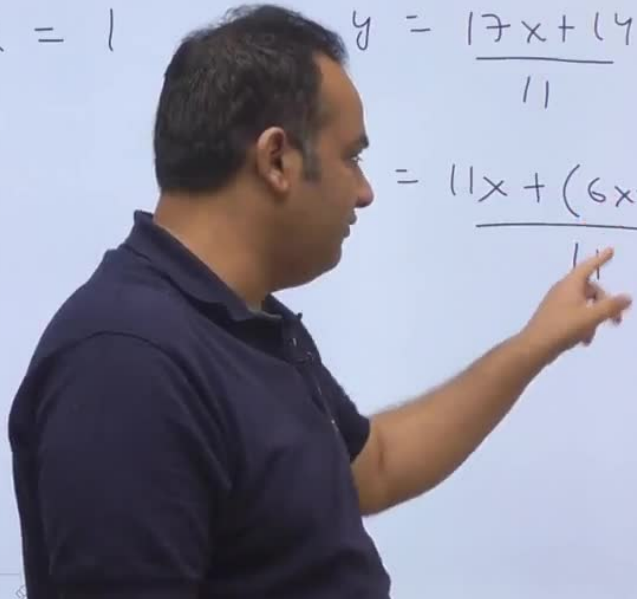
$R = 1$

gradeup

$\frac{N}{17}$ $R = 15$ $17x + 15 = 11y + 1$

$\frac{N}{11}$ $R = 1$ $y = \frac{17x + 14}{11}$

$= \frac{11x + (6x + 14)}{11}$

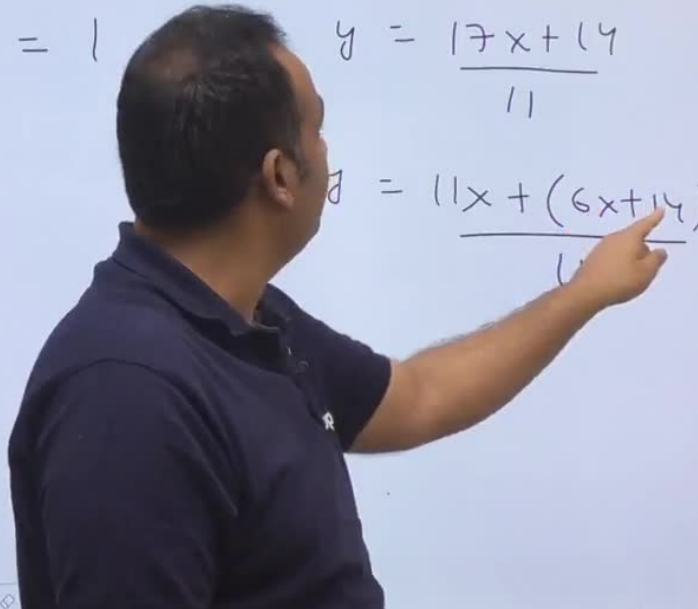


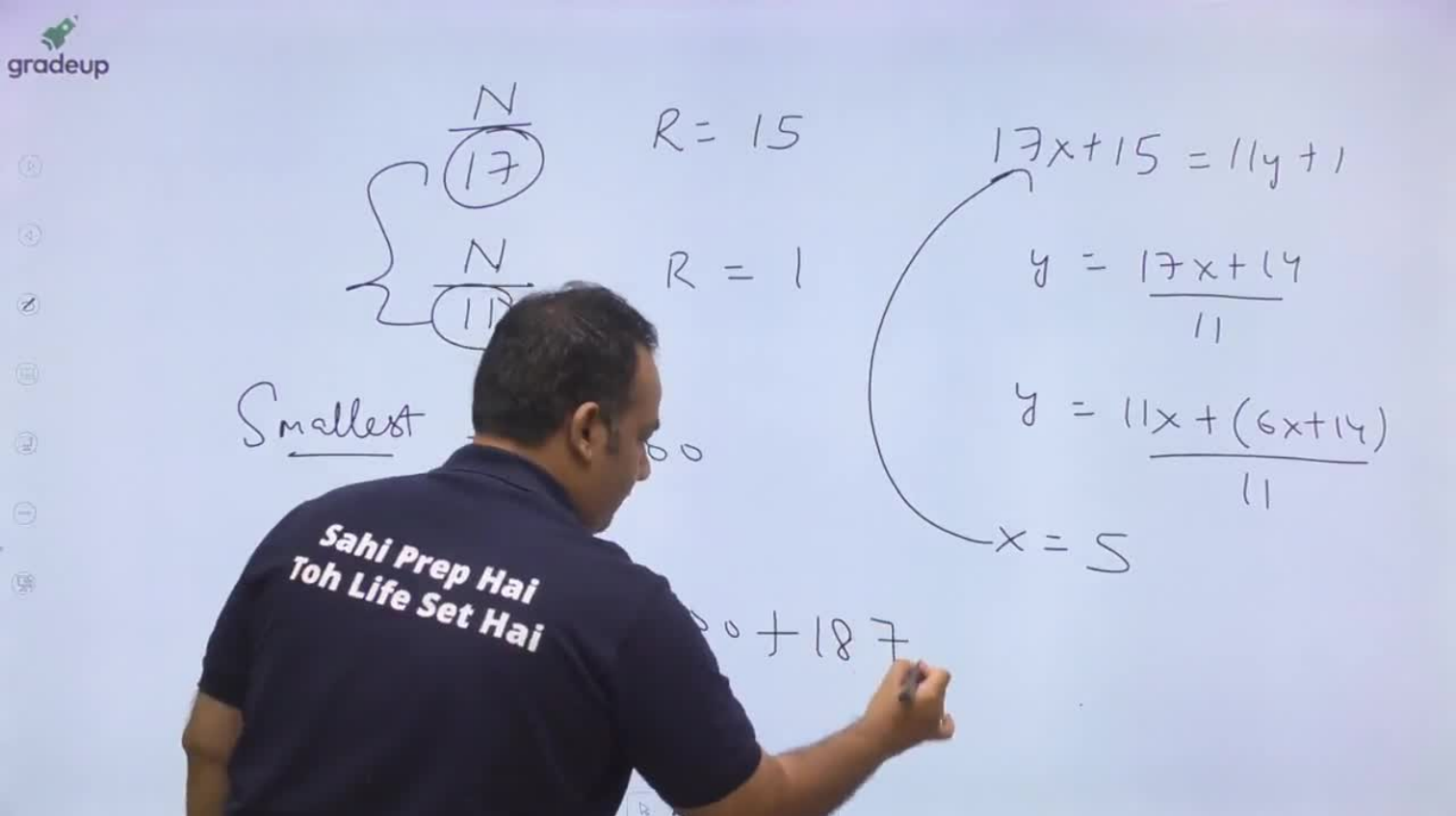
gradeup

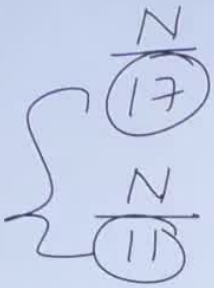
$\frac{N}{17}$ $R = 15$ $17x + 15 = 11y + 1$

$\frac{N}{11}$ $R = 1$ $y = \frac{17x + 14}{11}$

$y = 11x + \frac{(6x + 14)}{11}$




gradeup
N
17
R = 15
N
11
R = 1
17x + 15 = 11y + 1
y = 17x + 14 / 11
y = 11x + (6x + 14) / 11
x = 5
Smallest
Sahi Prep Hai
Toh Life Set Hai
+187



$R = 15$

$R = 1$

$17x + 15 = 11y + 1$

$y = \frac{17x + 14}{11}$

$y = \frac{11x + (6x + 14)}{11}$

$x = 5$

Smallest $\rightarrow$ 100

General solution $\rightarrow$ $100 + 187m$

gradeup

HCF

(i) $\frac{37}{N}$ $R = 2$ ✓

$\frac{58}{N}$ $R = 3$ ✓

$HCF(35, 55) = 5$

$\frac{80}{N}$ R

$\frac{108}{N}$ R

R

gradeup

HCF

(i) $\frac{37}{N}$ $R=2$ ✓

largest $\frac{58}{N}$ $R=3$ ✓

$N = HCF(35, 55) = 5$

(ii) $\frac{80}{N}$ R

$\frac{108}{N}$

64

$N = HF(28, \quad) = 14$

LCM

I Remainder are same

N / 7 $R=2$

N / 8 $R=2$

2+56m

$\frac{N}{7}$ ~~$R=3$~~

$\frac{N}{8}$ $R=4$

gradeup

HCF

(i) $\frac{37}{N}$ $R = 2$ ✓

Largest $\frac{58}{N}$ $R = 3$ ✓

$N = HCF($ $)$

(ii) $\frac{80}{N}$

LCM

I Remainder are same

$\frac{N}{7}$ $R = 2$

$\frac{N}{8}$ $R = 2$

2 + 56 m

II

$\frac{N}{7}$ $R = 3$

$\frac{N}{8}$ $R = 4$

Sahi Prep Hai
Toh Life Set Hai

gradeup

HCF

(i) $\frac{37}{N}$ $R=2$ ✓

largest $\frac{58}{N}$ $R=3$ ✓

$N = HCF(35, 55) = 5$

(ii) $\frac{80}{N}$ R

LCM

I Remainder are same

N (7) $R=2$

N (8) $R=2$

2+56m

N (7) $R=3$

N (8) $R=4$

52+56m

No (mod M

gradeup

HCF

(i) $\frac{37}{N}$ $R=2$ ✓

$\frac{58}{N}$ $R=3$ ✓

∴ HCF$(35, 55) = 5$

$\frac{80}{N}$ R

R

R

LCM

I Remainder are same

N (7) $R=2$

N (8) $R=2$

2+56m

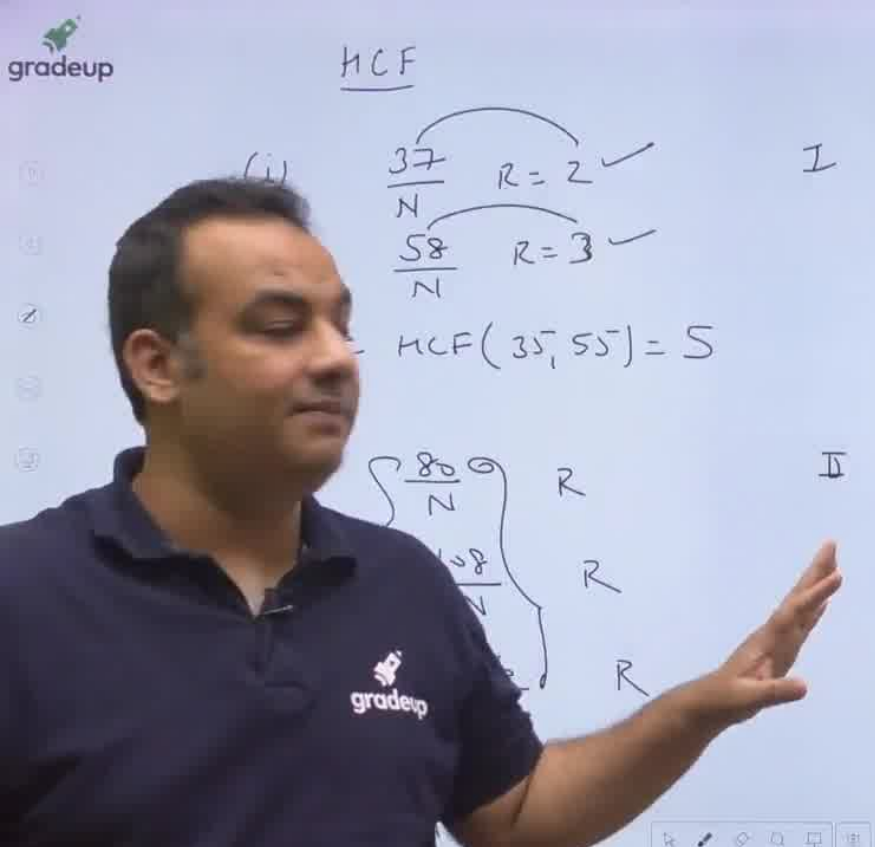
II

N (7) $R=3$

N (8) $R=4$

52+56m

III No cmd M



gradeup

1. What is the greatest number which can divide 141, 186, 231 leaving the same remainder 1 in each case?

(A) 31 (B) 5

(C) 45 (D) 35

HCF (140, 185, 230)

$\Rightarrow$ 5

gradeup

2. Three drums contain 2527 litres, 1653 litres, and 2261 litres milk respectively. What is the biggest measure that can measure milk of each drum exactly?

(A) 19 litre
(B) 20 litre
(C) 29 litre
(D) 31 litre

gradeup

3. Six bells commence tolling together and toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30 minutes, How many times do they toll together?

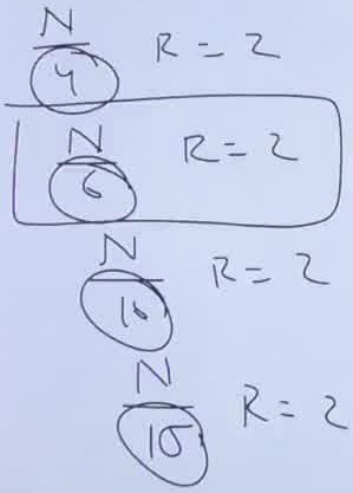
(A) 4
(B) 10
(C) 15
(D) 20

gradeup

$6x+2$

LCM
Con-I

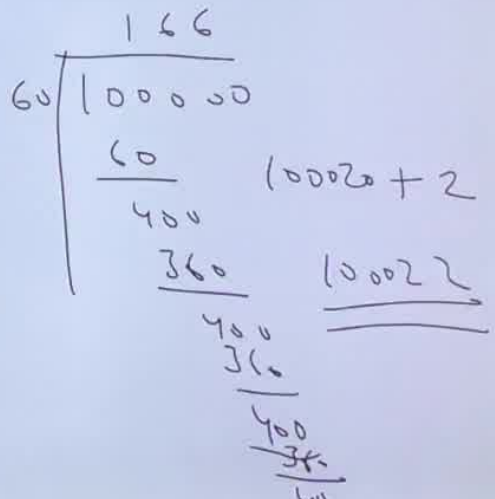
4. Let the least number of six digits which when divided by 4, 6, 10, 15 leaves in each case same remainder 2 be N. the sum of digits in N is.



(A) 3 ✗ (B) 5
(C) 4 ✗ (D) 6 ✗

General Form

$\rightarrow 2+60m$



gradeup

HCF
Case II

5. Let N be the greatest number that will divide 1305, 4665 and 6905 leaving the same remainder in each case. Then, sum of the digits in N is.

(A) 4
(B) 5
(C) 6
(D) 8

$N = HCF(3360, 2240)$

$= 1120$

gradeup

6. What is the least number which when divided by 12, 15, 16 leaves 7, 10, 11 as remainder respectively?

$12x + 7$

4 R = 3

~~(A) 240~~

(B) 235

(C) 245

~~(D) 260~~

N

12 R = 7

N

15 R = 10

N

16 R = 11

240 − 5

= 235

gradeup

7. The length of two pencils are 24 cm and 42 cm. If we want to equal their size, then minimum number of pencils of same size?

(A) 6
(B) 11
(C) 12
(D) None of these

gradeup

9. The least multiple of 13, when divided by 4, 5, 6, 7 and 8 leaves remainder 2 in each case?

(A) 2520
(B) 842
(C) 2522
(D) 840

gradeup

10. 68 m long and 51 m wide floor of a hall is to be passed with square tile. What is minimum no of square tile?

(a) 17 (b) 12
(c) 4 (d) 3

gradeup

11. A gardener has 3 type of flowers in numbers 76, 151, and 226. He makes bunches of equal size in maximum number of flowers, then one flower remain extra among each type of flowers. Find number of flowers in each bunch?

(A) 25
(B) 50
(C) 75
(D) None of these

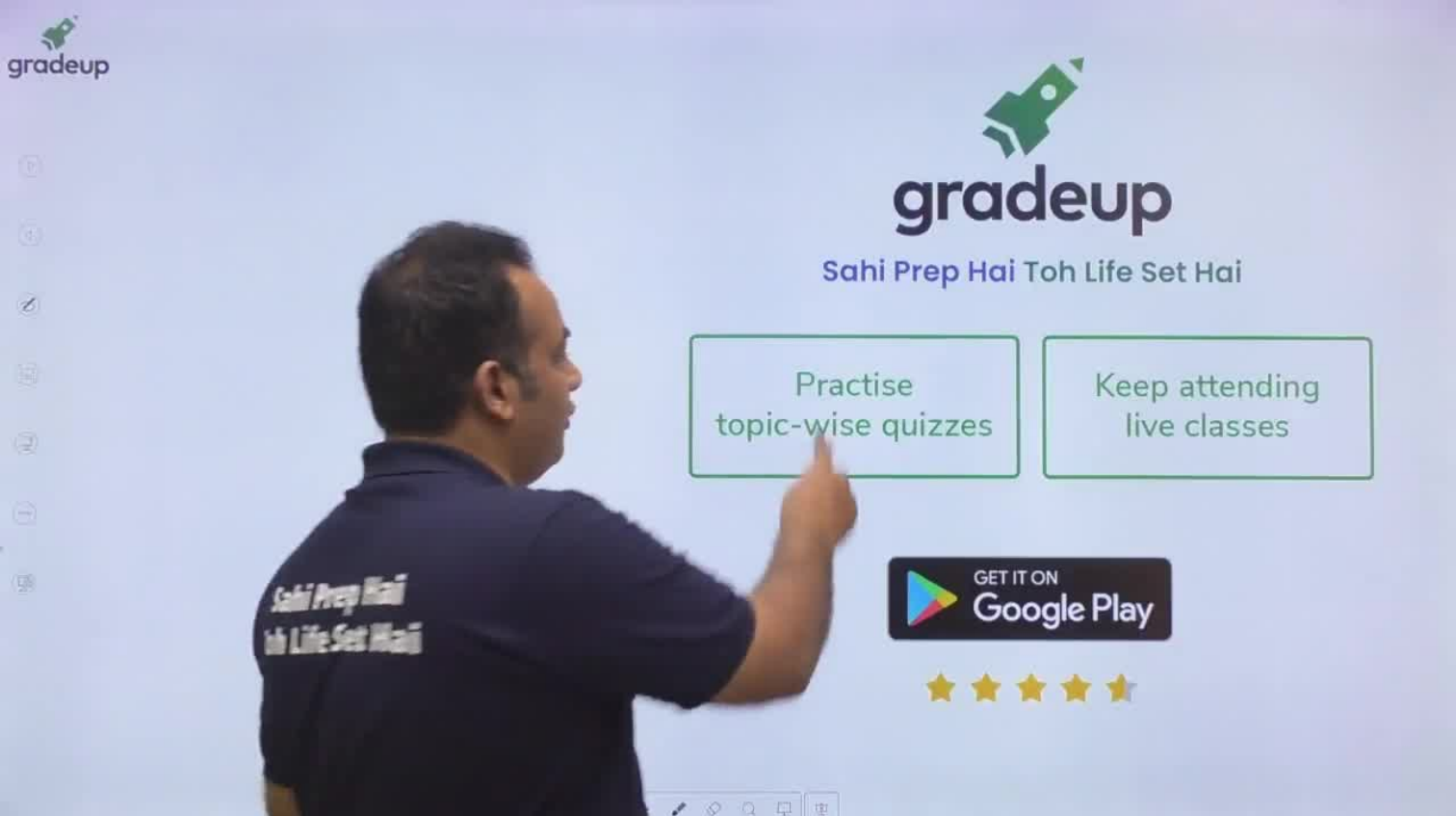
gradeup

12. The largest of five digit number which when increased by 45 is divisible by 60, 65, 75, 80 exactly?

(A) 87360
(B) 87315
(C) 87405
(D) None of these

gradeup

Ans. (d)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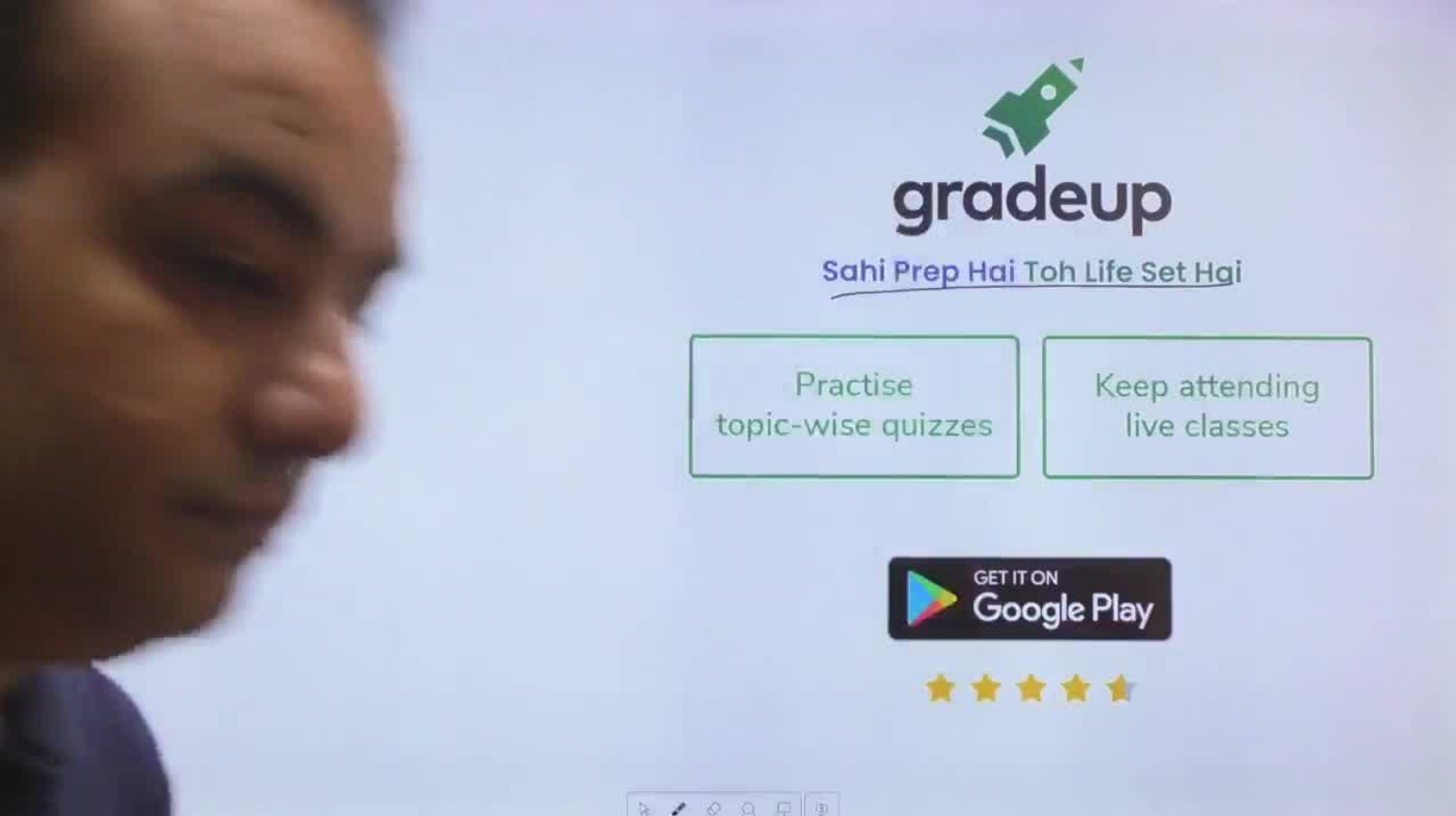
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