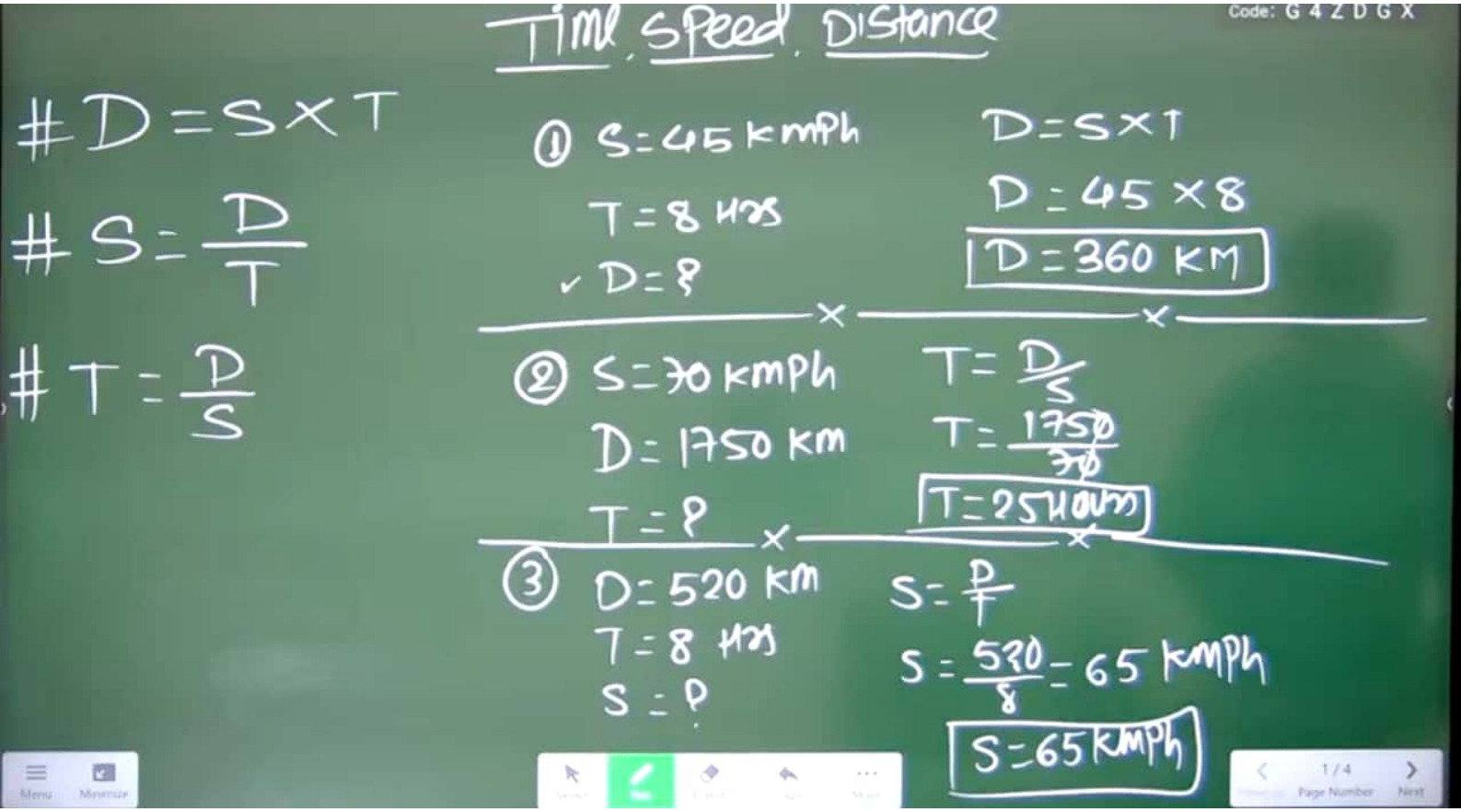


1) D = 400 meter

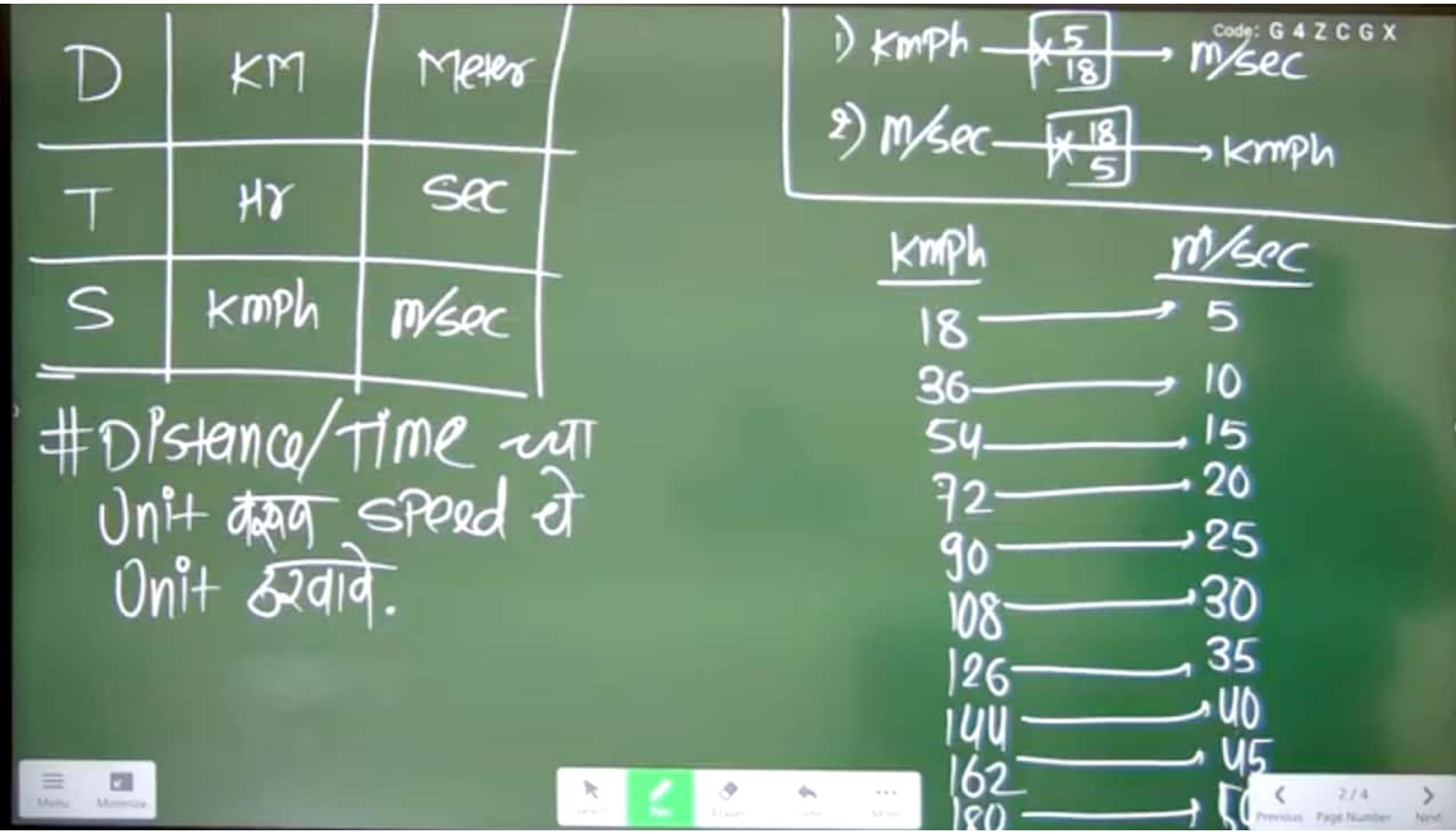
S = 90 kmph

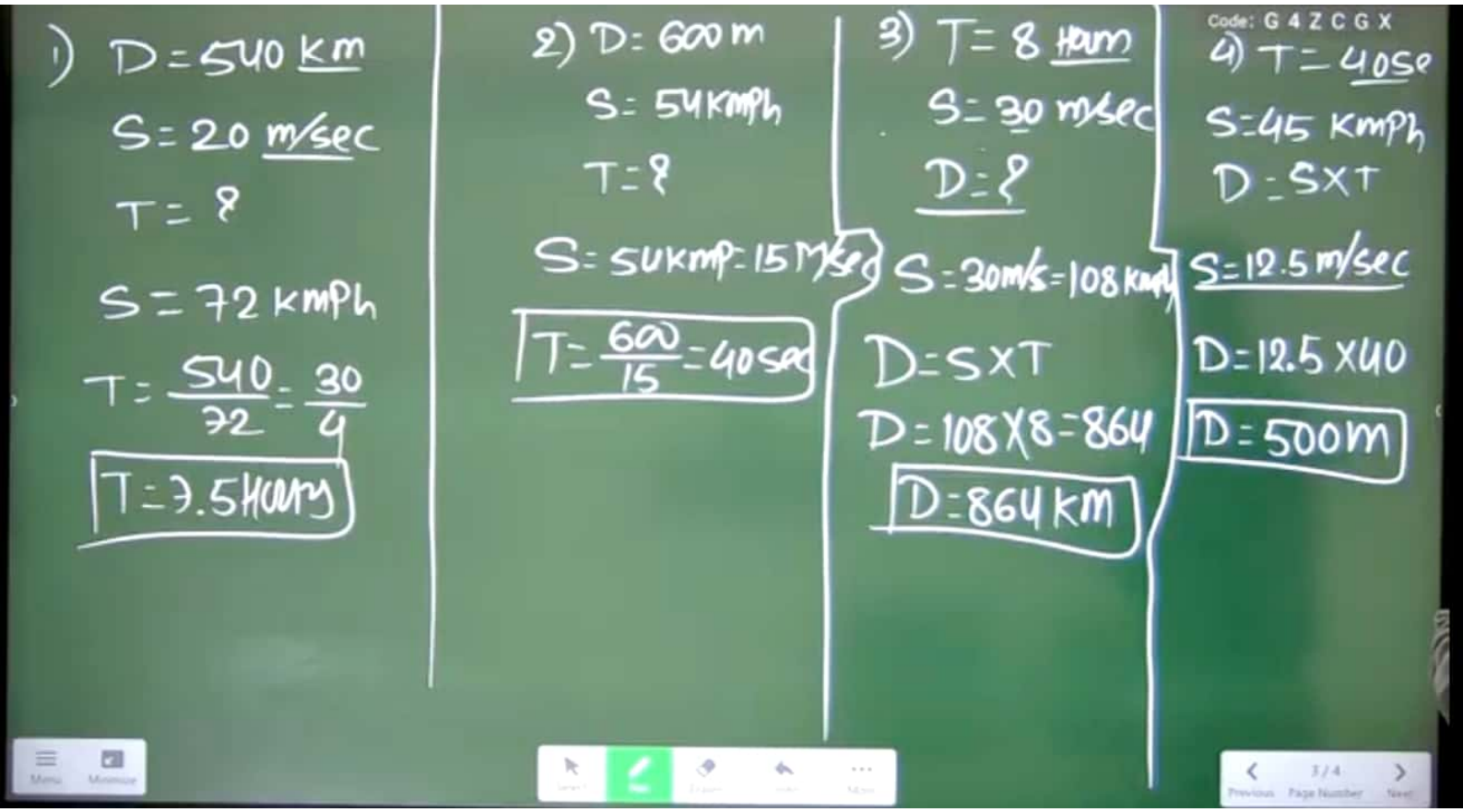
$S = 90 \times \frac{5}{18} = 25$ m/sec

1) kmph $\xrightarrow{\times \frac{5}{18}}$ m/sec

2) m/sec $\xrightarrow{\times \frac{18}{5}}$ kmph

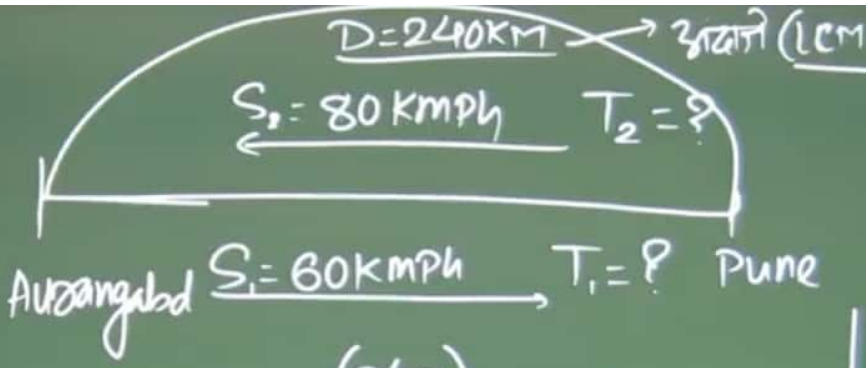
kmph	m/sec
18	5
36	10
54	15
72	20
90	25
108	30
126	35
144	40
162	45
180	50





Code: G 4 Z C G X

Properties :→



$$\frac{T_1}{T_2} = \frac{\left(\frac{240}{60}\right)}{\left(\frac{240}{80}\right)} = \boxed{\frac{4}{3}}$$

Distance = constant = Equal

$$\frac{S_1}{S_2} = \frac{60}{80} = \boxed{\frac{3}{4}} \qquad \frac{T_1}{T_2} = \boxed{\frac{4}{3}}$$

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Code: G 4 Z C G X

Properties :→

1) Distance = Equal

$$\Rightarrow \frac{S_1}{S_2} = \frac{T_2}{T_1}$$

$$\Rightarrow \boxed{S_1 \times T_1 = S_2 \times T_2}$$

2) Speed = Equal

$$\boxed{\frac{D_1}{T_1} = \frac{D_2}{T_2}}$$

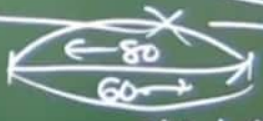
$$\Rightarrow \boxed{\frac{D_1}{D_2} = \frac{T_1}{T_2}}$$

3) Time = Equal

$$\boxed{\frac{D_1}{S_1} = \frac{D_2}{S_2}}$$

$$\boxed{\frac{D_1}{D_2} = \frac{S_1}{S_2}}$$

$$\text{Avg speed} = \frac{\text{Total Distance}}{\text{Total Time}}$$



$$\text{Avg Speed} = \frac{240+240}{4+3} = \frac{480}{7} = \boxed{68\frac{4}{7}}$$

Code: G 4 Z C G X

An aeroplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in 2 hours, it must travel at a speed of

a) 300
b) 360
720
600
None

S = 240 kmph
T = 5 Hrs
D = 240 × 5 = 1200 km

D = 1200 km
T = 2 Hrs
S = $\frac{1200}{2}$ = 600 kmph

Code: G 4 Z C G X

An aeroplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in 2 hours, it must travel at a speed of

a) 300
b) 360
c) 720
d) 600
e) None

S = 240 kmph
T = 5 Hrs
D = 240 × 5 = 1200 km

D = 1200 km
T = 2 Hrs
S = 1200/2 = 600 kmph

X

$\frac{S_1}{S_2} = \frac{T_2}{T_1}$

$\frac{240}{x} = \frac{2}{5}$

x = 600 kmph

Code: G W Z C G W

If Ramdas walks at 15 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:

a) 40 km
b) 56 km
60 km
80 km
75 km

$$T = \frac{D}{S}$$

$$\frac{D_1}{S_1} = \frac{D_2}{S_2}$$

$$\frac{x}{10} = \frac{x+20}{15}$$

$$15x = 10x + 200$$

$$5x = 200 \quad (x = 40)$$

Code: GWZCGW

If Ramdas walks at 15 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:

a) 40 km
b) 56 km
c) 60 km
d) 80 km
e) 75 km

$$T = \frac{D}{S}$$

$$\frac{D_1}{S_1} = \frac{D_2}{S_2}$$

$$\frac{x}{10} = \frac{x+20}{15}$$

$$15x = 10x + 200$$

$$5x = 200 \quad (x = 40)$$

Mentos

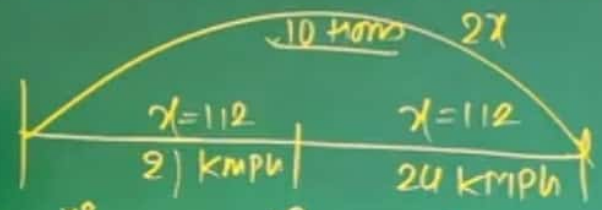
$$\frac{\text{original (S)}}{\text{later (S)}} = \frac{10}{15} \xrightarrow{\times 4} \frac{40}{60}$$

$$\frac{D}{S} = \frac{20}{5} = 4 \text{ Hrs}$$

Code: G W Z C G W

A man complete a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.

a) 220 km
224 km
230 km
234 km
260 km



$$\left(\frac{x}{21}\right)^{\times 8} + \left(\frac{x}{24}\right)^{\times 7} = 10$$

$$\frac{8x + 7x}{168} = 10$$

$$\frac{15x}{168} = 10$$

$$x = 112$$

$D = S \times T$

⇒ Distance म्हणजेच speed आणि Time चा गुणाकार

⇒ Distance ला नेहमी speed आणि Time ने भागा जाते

⇒ Distance speed आणि Time चा घटवला असतो