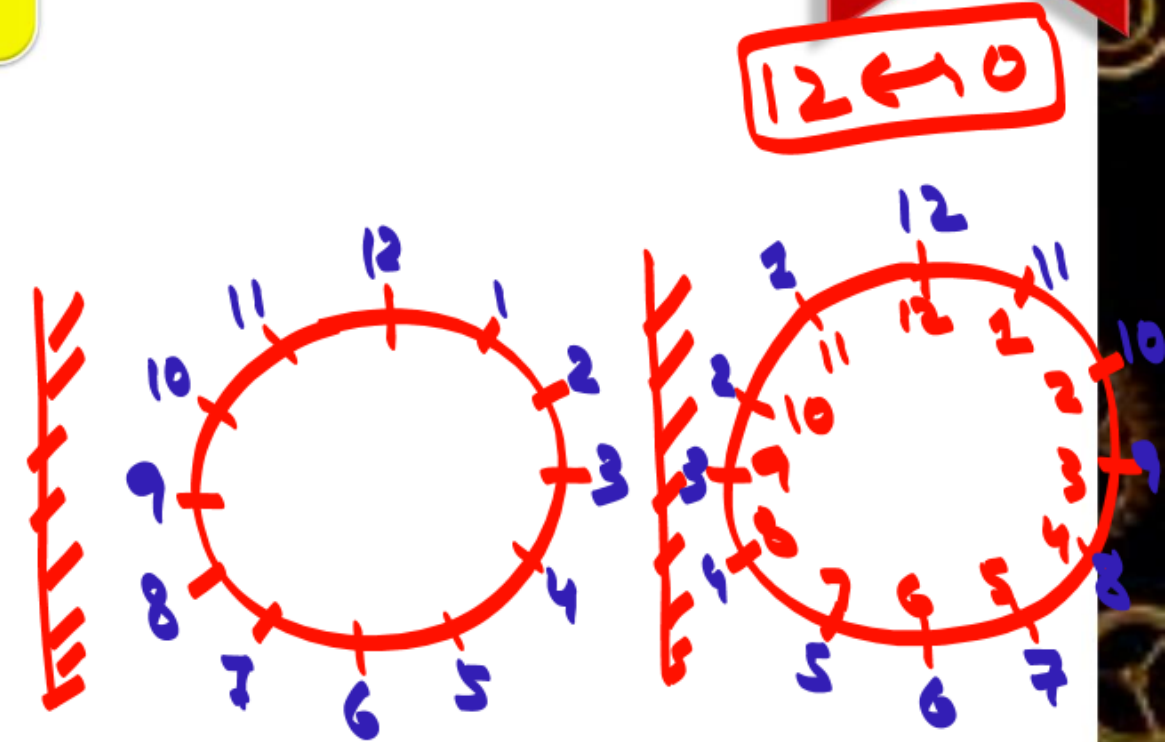


Mirror Image

Vertical Mirror $\rightarrow$ 12 में से घटाएं

Original Time + Vertical Image Time = 12 (11:60)

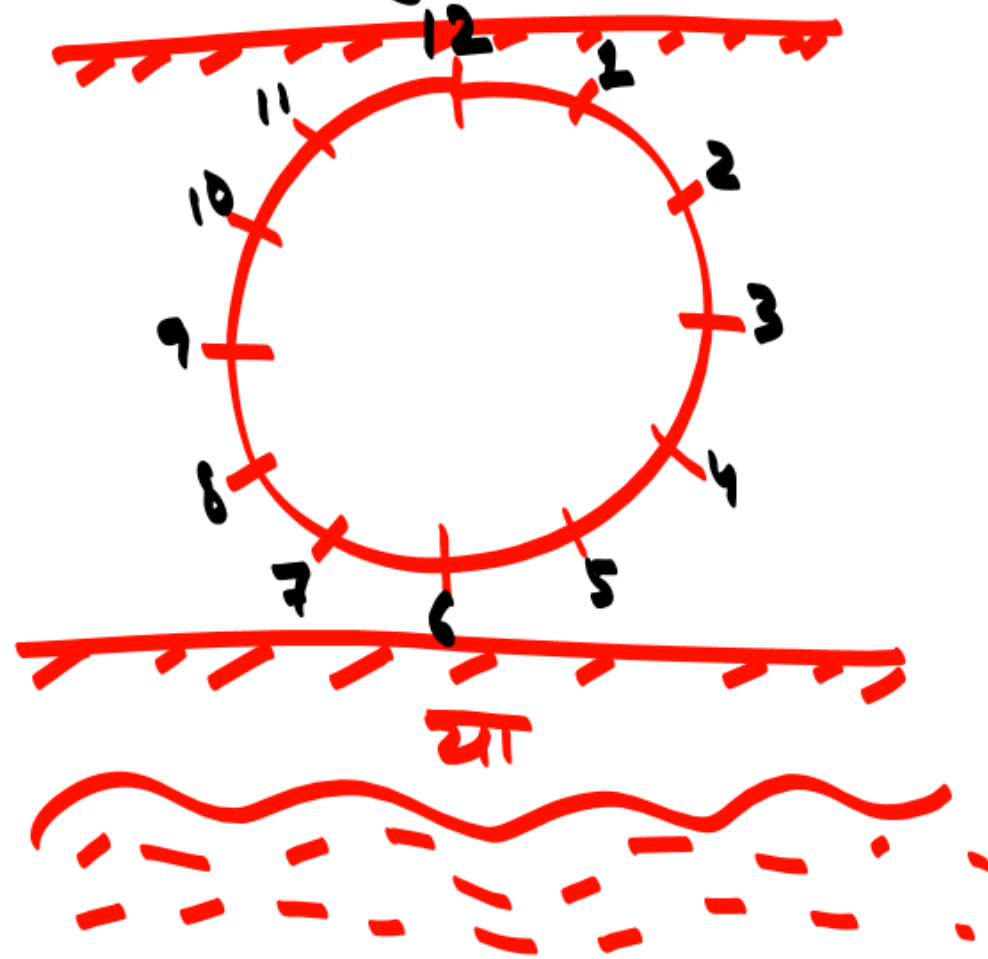


Vertical Image Time = 12 (11:60) – Original Time

Example . 2:10 का दर्पण छवि समय?

$$\begin{array}{r} 11:60 \\ - 2:10 \\ \hline 9:50 \end{array} \checkmark$$

જલ છબિ / હોરિઝન્ટલ દર્પણ
Water image / Horizontal mirror



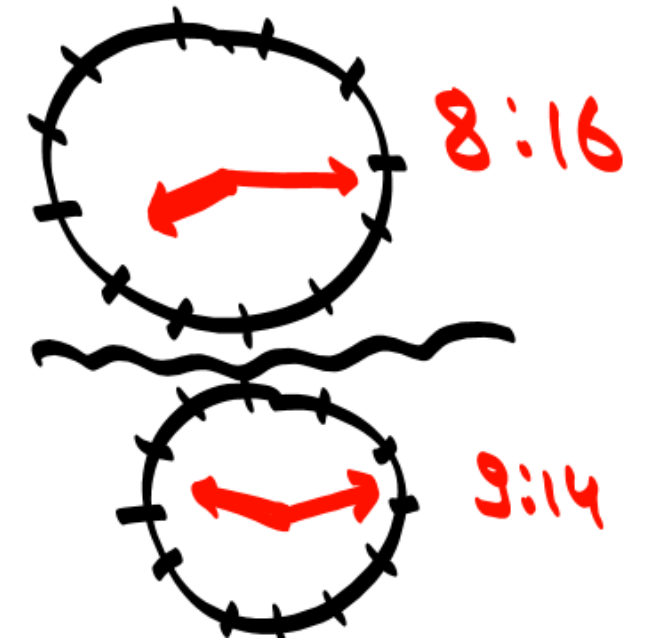
5/17 : 30/30 મેં ઘટાડો

Ex.]

8:16 ની જલ છબિ

17:30
- 8:16

9:14



આપવાદ

કુતરી જલ ધરિષા વાસ્તવિતુ ધડી મખી નહી બન સકતી

12:00

12:30

6:00

1:30

1:00

2:30

2:00

3:30

3:00

4:30

4:00

5:30

5:00

6:30

6:00

7:30

7:00

8:30

8:00

9:30

9:00

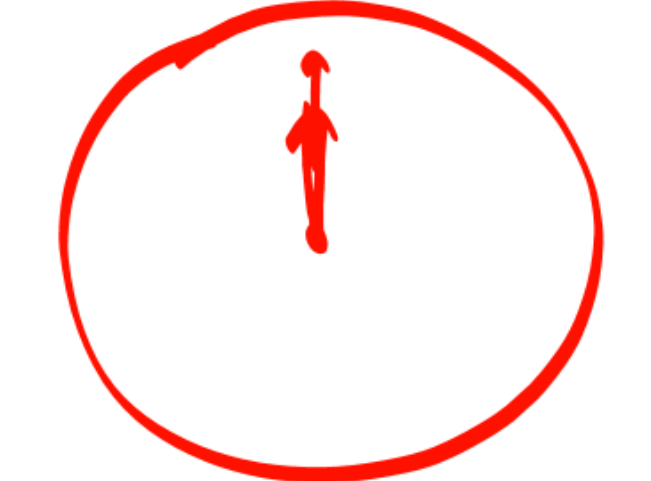
10:30

10:00

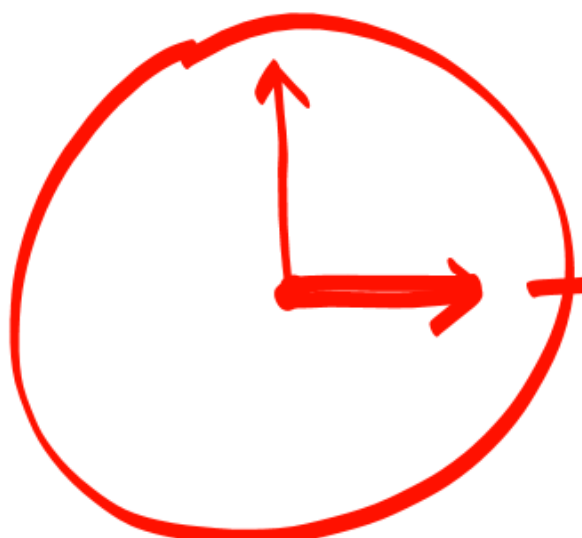
11:30

11:00

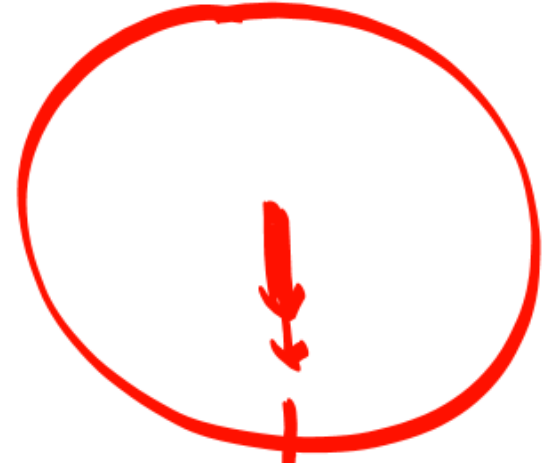
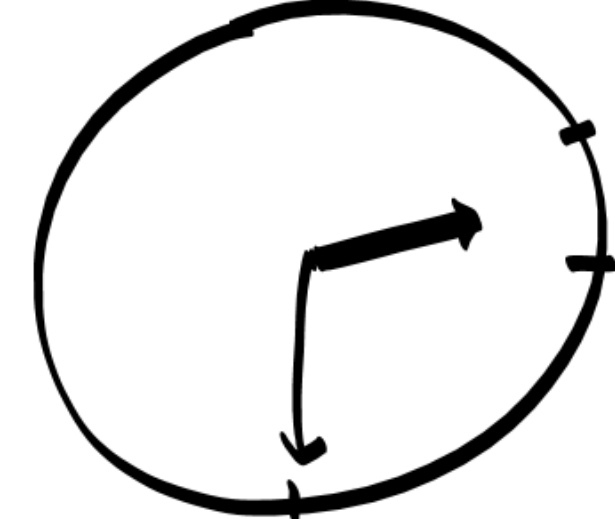
12:00



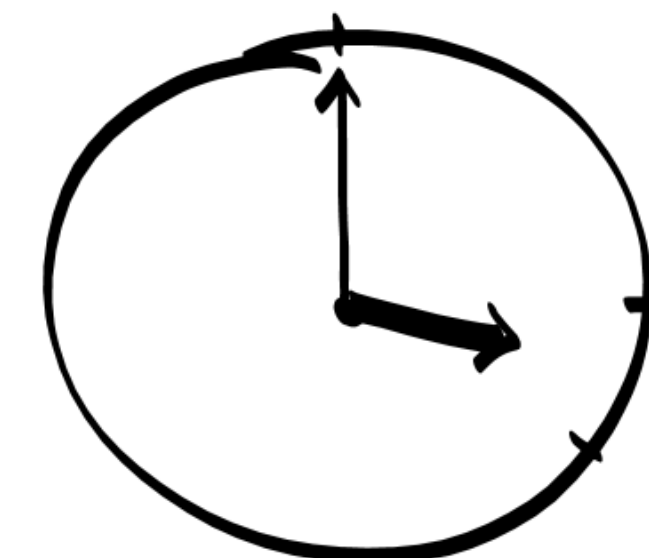
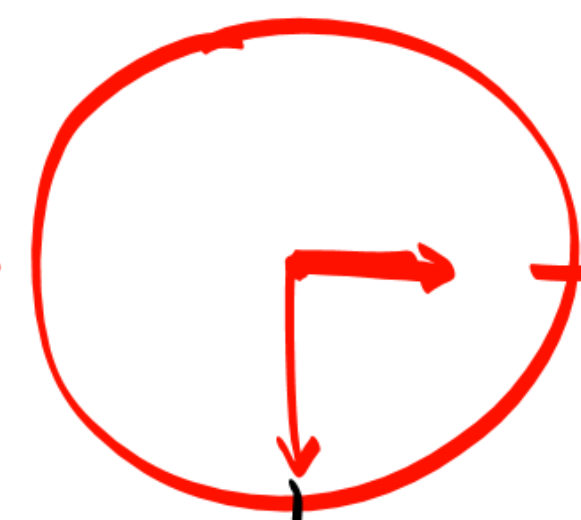
3:00



2:30



→ Time exist નહી કરના





QUESTION:- 22

What is the angle between hour hand and minute hand at 6:24 PM?

शाम 6:24 बजे घंटे की सुई और मिनट की सुई के बीच का कोण क्या है?

(a) 15°

(b) 120°

(c) 144°

☒ (d) 48°

$$30H - \frac{11}{2}M$$

$$|30 \times 6 - \frac{11}{2} \times 24|$$

$$= |180 - 132| = 48^\circ$$



QUESTION:- 23

What is the angle between hour hand and minute hand at 8:36 PM?

शाम 8:36 बजे घंटे की सुई और मिनट की सुई के बीच का कोण क्या है?

(a) 55°

(b) 120°

(c) 124°

✓ (d) 42°

$$|30 \times 8 - \frac{11}{2} \times 36|$$

$$= |240 - 198| = 42^\circ$$



QUESTION:- 24

What is the angle between hour hand and minute hand at 3:05 PM?

शाम 3:05 बजे घंटे की सुई और मिनट की सुई के बीच का कोण क्या है?

(a) 78°

☒ (b) 62.5°

(c) 72.5°

(d) 48.5°

$$\begin{aligned} & |30 \times 3 - \frac{11}{2} \times 5| \\ &= |90 - 27.5| \\ &= 62.5^\circ \end{aligned}$$



QUESTION:- 25

The reflex angle between the hands of a clock at 10 : 40 is?

10:40 पर घड़ी की सुइयों के बीच प्रतिवर्ती कोण क्या है?

(a) 80°

(b) 180°

✓ (c) 280°

(d) 240°

$$|30 \times 10 - \frac{11}{2} \times 40|$$

$$= |300 - 220| = 80^\circ$$

$$\text{प्रतिवर्ती} \rightarrow 360 - 80 = 280^\circ$$



QUESTION:- 26

A Clock is started afternoon, by 10 minutes, past 8, the hour hand has turned through?

एक घड़ी दोपहर में शुरू हुई, 8 बजकर 10 मिनट पर, घंटे की सुई घूम गई?

(a) 240°

(b) 260°

(c) 380°

✓ (d) 245°

$$30H + \frac{1}{2}M + \frac{1}{120}S$$

$$30 \times 8 + \frac{1}{2} \times 10$$

$$= 240 + 5 = 245^\circ$$

Reflex angle between the hands of a clock at 3:15?

घड़ी की सुइयों के बीच 3:15 पर प्रतिवर्ती कोण?

~~(a) 192.5~~

~~(b) 197.5~~

352.5 ✓

~~(c) 292.5~~

~~(d) 297.5~~

$$\begin{aligned}\text{Reflex } &= 360 - \theta \\ &= 360 - 7.5 \\ &= 352.5\end{aligned}$$

$$\theta = |30 \times 3 - \frac{11}{2} \times 15|$$

$$= |90 - \frac{165}{2}|$$

$$= \left| \frac{180 - 165}{2} \right| = \frac{15}{2} = 7.5$$

STANDARD ANGLES QUESTIONS



QUESTION:- 28

At what time between 4 and 5 O' clock will the hands of a watch point in opposite directions?

4 से 5 बजे के बीच किस समय घड़ी की सूइयां विपरीत दिशाओं में होंगी?



5 - 5
H

4:54 $\frac{6}{11}$

180°

$$M \rightarrow \frac{60}{11}(H \pm 6)$$

$$M \rightarrow \frac{60}{11}(4 \pm 6)$$

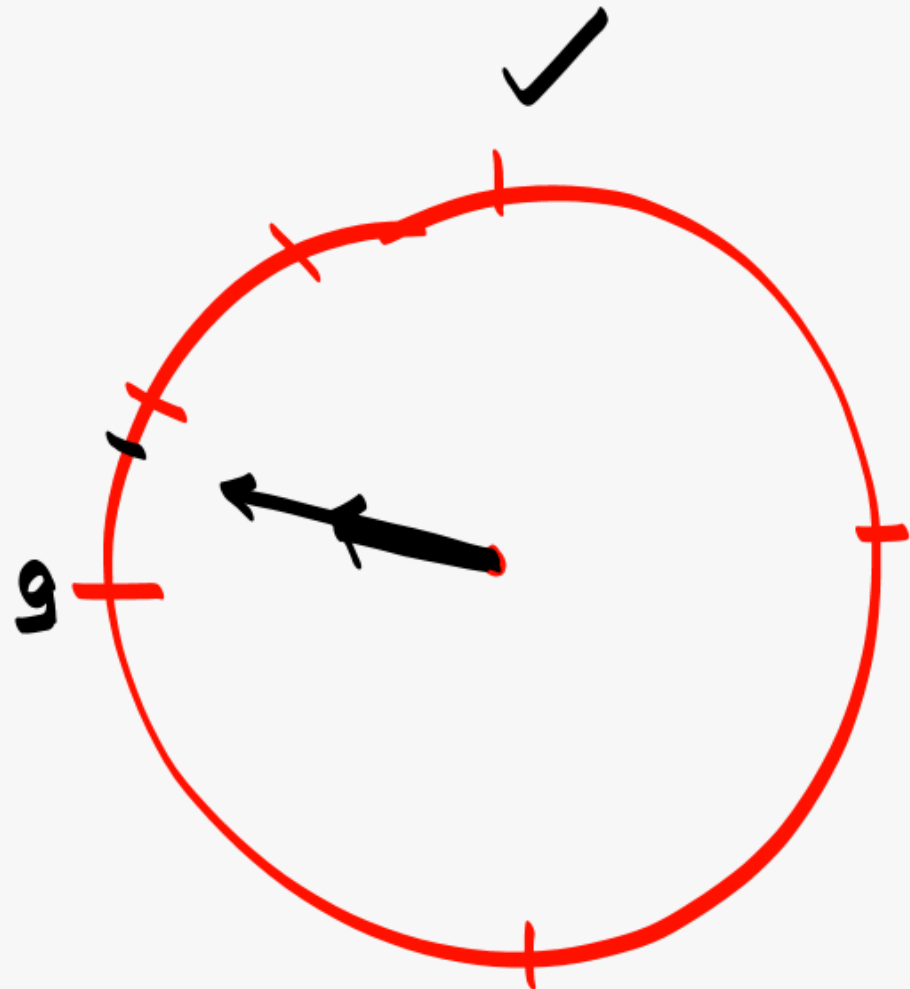
$$\Rightarrow \frac{60}{11}(4+6)$$

$$= \frac{60}{11}(10) = \frac{600}{11} = 54 \frac{6}{11}$$

QUESTION:- 29

At what time between 9 and 10 O'clock will the hands of a watch be together?

9 से 10 बजे के बीच किस समय घड़ी की सूइयां एक साथ होंगी?



9:49 $\frac{1}{10}$

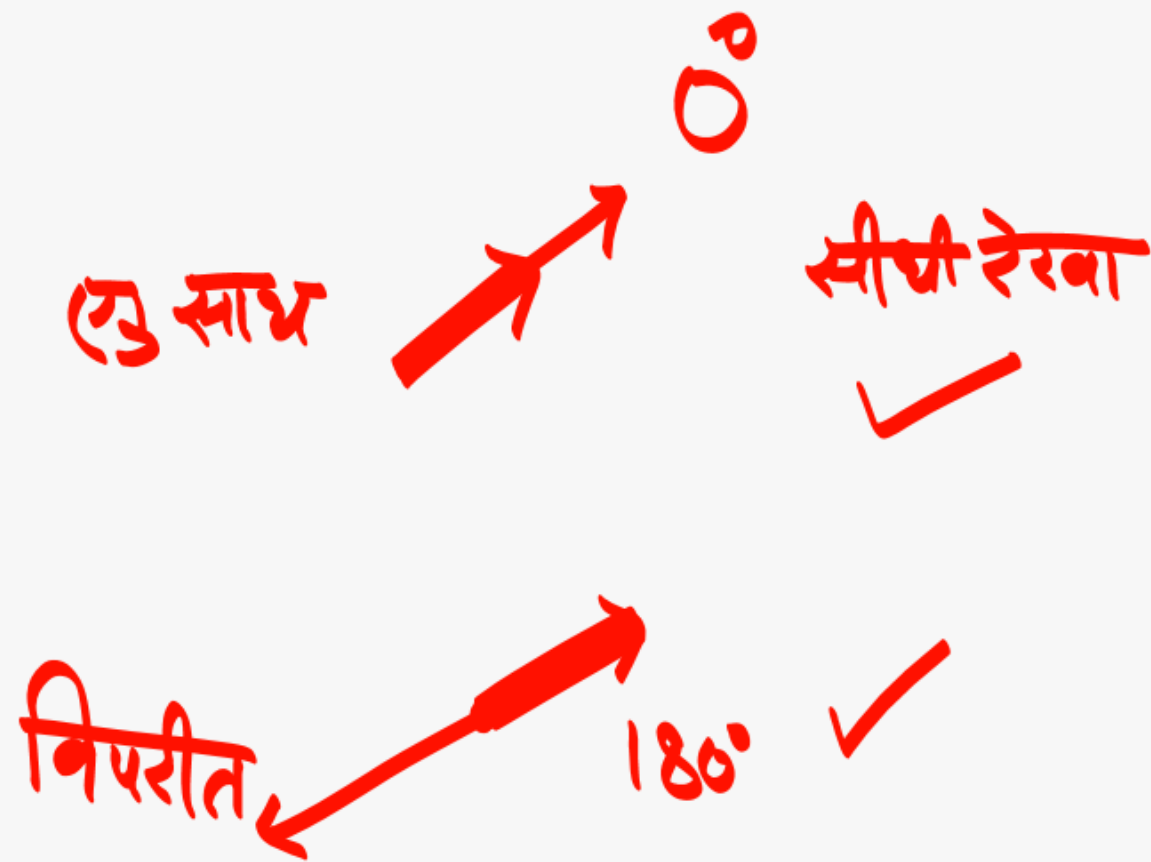
$$M = \frac{60}{11}(H)$$

$$M = \frac{60}{11}(9) = \frac{540}{11}$$

$$M = 49\frac{1}{11}$$

At what time between 7 and 8 O'clock will the hands of a clock be in the same straight line but not together?

7 से 8 बजे के बीच किस समय घड़ी की सूइयाँ एक ही सीधी रेखा में होंगी लेकिन एक साथ नहीं? $\rightarrow 180^\circ$



7:55 $\frac{5}{11}$

$$M = \frac{60}{11}(H \pm 6)$$

$$M = \frac{60}{11}(7 \pm 6)$$

$$= \frac{60}{11}(7-6)$$

$$= \frac{60}{11}(1) = 5\frac{5}{11}$$



QUESTION:- 31

At what time between 4 and 5 O'clock will the hands of a clock be together?

4 से 5 बजे के बीच किस समय घड़ी की सुइयां एक साथ होंगी?

$$\frac{60}{11}(H \pm 0)$$

(a) $5\frac{5}{11}$, past 4

(b) $10\frac{10}{11}$, past 4

✓ ~~(c)~~ $21\frac{9}{11}$, past 4

(d) $21\frac{7}{11}$, past 4

$$\frac{60}{11}(4) = \frac{240}{11} \Rightarrow 21\frac{9}{11}$$

Q 5 से 6 इ बीच

$$\frac{60}{11}(5 \pm 6)$$

$$\frac{60}{11}(H) = 60$$

5:60



6:00

Can't be formed

At what time between 6 O'clock and 7 O'clock will be hands of a lock in opposite direction?

6 बजे से 7 बजे के बीच किस समय घड़ी की सूइयां विपरीत दिशा में होंगी?

(a) $5\frac{5}{11}$ min, past 6

(b) 30min, past 6

(c) $16\frac{4}{11}$, past 6

✓ (d) Can't be formed

$$\frac{60}{11}(H \pm 6)$$

$$\frac{60}{11}(6 \pm 6)$$

$$\frac{60}{11}(6-6) = 0$$

6:00

QUESTION:- 33

At what time between 4 and 5 O'clock will the hands of a watch point in opposite directions?

4 से 5 बजे के बीच किस समय घड़ी की सूइयां विपरीत दिशाओं में होंगी?

$$\frac{60}{11}(4 \pm 6)$$

$$\frac{60}{11}(10) = \frac{600}{11} \Rightarrow 54\frac{6}{11}$$

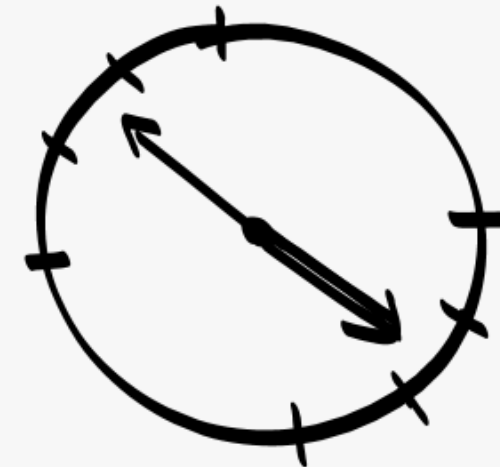
$$4:54\frac{6}{11}$$

~~(a)~~ $10\frac{10}{11}$ min, past 4

~~(b)~~ $16\frac{4}{11}$ min, past 4

✓ (c) $54\frac{6}{11}$ min, past 4

~~(d)~~ $20\frac{10}{11}$ min, past 4



QUESTION:- 34

At what time between 6 and 7 O'clock will the hands of a clock be at right angle?

6 से 7 बजे के बीच किस समय घड़ी की सूइयां समकोण पर होंगी?

$$\begin{array}{l}
 \frac{60}{11}(H \pm 3) \\
 \swarrow \quad \searrow \\
 \frac{60}{11}(6+3) \qquad \frac{60}{11}(6-3) \\
 \frac{60}{11}(9) \qquad \frac{60}{11}(3) \\
 \frac{540}{11} \Rightarrow 49\frac{1}{11} \qquad \frac{180}{11} \Rightarrow 16\frac{4}{11} \\
 \textcircled{6:49\frac{1}{11}} \qquad \textcircled{6:16\frac{4}{11}}
 \end{array}$$

QUESTION:- 35

At what time between 9 and 10 O'clock will the hands of a clock be at right angle?

9 से 10 बजे के बीच किस समय घड़ी की सूइयां समकोण पर होंगी?

$$\begin{array}{l}
 \boxed{12 \leftrightarrow 0} \\
 \downarrow \\
 \textcircled{9:00}
 \end{array}
 \quad
 \begin{array}{l}
 \frac{60}{11}(H \pm 3) \\
 \swarrow \quad \searrow \\
 \frac{60}{11}(9+3) \quad \frac{60}{11}(9-3) \\
 \frac{60}{11}(12) \quad \frac{60}{11}(6) = \frac{360}{11} \Rightarrow 32\frac{8}{11} \\
 \frac{60}{11}(0) = 0
 \end{array}
 \quad
 \begin{array}{l}
 \text{Ans} \\
 \textcircled{9:32\frac{8}{11}}
 \end{array}$$

How many times do the hands of clock coincide in a day?

24 hr ← एक दिन में घड़ी की सुइयाँ कितनी बार मेल खाती हैं?

(a) 11 times

☒ (b) 22 times

(c) 12 times

(d) 24 times

1 चक्कर (12 Hr) → 11 बार
11 Times

24 hr → $11 \times 2 = 22 \checkmark$



QUESTION:- 37

How many times in 48 hrs the hands of a clock are in straight line but not 180° coincide to each other?

48 घंटों में कितनी बार घड़ी की सूइयां सीधी रेखा में होती हैं लेकिन एक-दूसरे से मेल नहीं खातीं? 180°

(a) 22 times

(b) 48 times

(c) 24 times

✓ (d) 44 times

180°

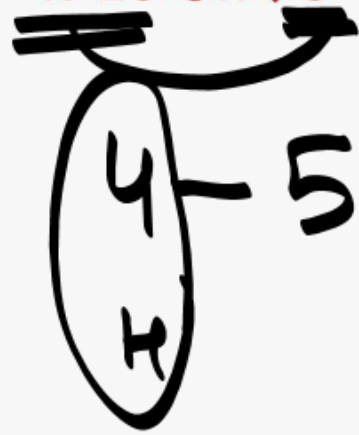
1 चक्कर (12 Hr) $\longrightarrow$ 11 times

48 Hr $\longrightarrow 11 \times 4 = 44$

QUESTION:- 38

At what time between 4 : 15 and 5 will the hands of a clock be at right angles?

4: 15 और 5 के बीच किस समय घड़ी की सुईयाँ समकोण पर होंगी?



$$\begin{aligned}
 & \frac{60}{11} (H \pm 3) \\
 & \swarrow \quad \searrow \\
 & \frac{60}{11} (4+3) \qquad \frac{60}{11} (4-3) \\
 & \frac{60}{11} (7) \qquad \frac{60}{11} (1) \\
 & \frac{420}{11} \Rightarrow 38\frac{2}{11} \qquad 5\frac{5}{11} \\
 & \checkmark \quad 4: 38\frac{2}{11} \qquad 4: 5\frac{5}{11}
 \end{aligned}$$

How many times in a day, the hands of a clock are straight line?

24hr
 एक दिन में कितनी बार घड़ी की सुईयाँ सीधी रेखा में होती हैं?
 0° 180° → दोनो

(a) 42 times

(b) 40 times

✓ (c) 44 times

(d) 48 times

1 चक्कर में

0° → 11 times

180° → 11 times

सीधी रेखा

1 चक्कर में → 22 times

(12 Hr)

24 Hr (1 दिन) → $22 \times 2 = 44$

7 AM