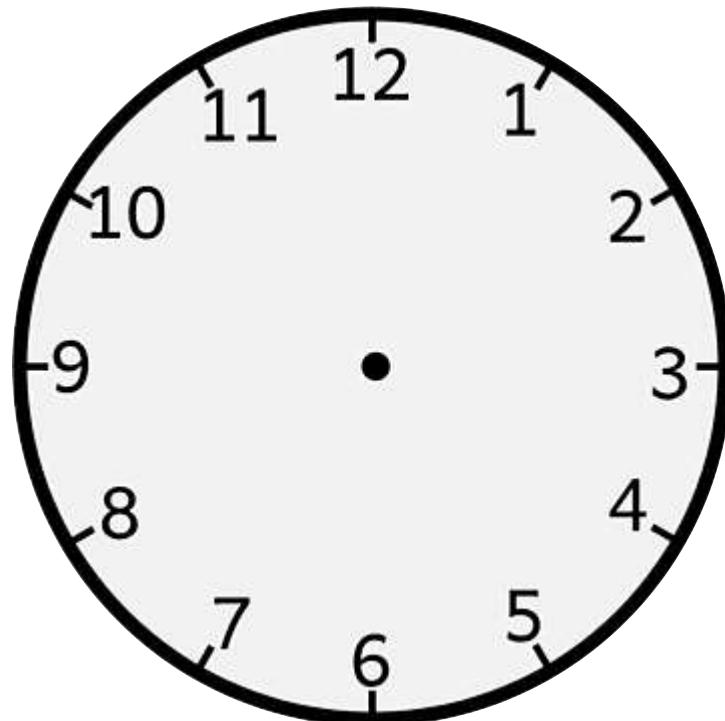


NALR **CLOCK**



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- Speed of the hands
- A clock has three hooks and all three move at different rates. The speed of moving object depends on the distance travelled and the time taken to cover a specific range.
- The speed is calculated by:
- **Speed = Distance/(Time taken)**
- **The speed of a minute hand:**
- A minute hand travels **360°** in one hour. i.e. it travels through all the **12** divisions around the clock every hour. (*1 hour = 60 minutes*)
- Speed of a minute hand = $(360^\circ)/(60 \text{ minutes})$
- **Speed of a minute hand = 6° per minute.**
- **The speed of an hour hand:**
- An hour hand travels 30° in an hour. i.e. it covers a distance of 5 minutes (the gap between consecutive divisions) in 60 minutes.
- Speed of an hour hand = $(30^\circ)/(60 \text{ minutes})$
- **Speed of an hour hand = $1/2^\circ$ per minute.**
- To know more about [IBPS Syllabus](#), check at the linked article.

- Comparison of Speed of hands
- The difference in the speed = $6^\circ - (1/2)^\circ = 5.5^\circ$ per minute
- Comparing the speed of the minute hand and an hour hand, one can conclude that the minute hand is always faster than the hour hand by 5.5° or an hour hand is always slower than the minute hand by 5.5°
- **Note:** *The evaluation of the speed of second hands is not necessary as it travels a corresponding distance of 1 second in a second.*
- **Frequency of coincidence and collision of hands of a clock:**
- As we know the hands of clock moves at different speeds, they coincide and collide and also make different angle formations among themselves at various times in a day.

- **Finding the time when the angle is known:**
- When the angle between the hands are not perfect angles like 180° , 90° or 270° , the solving of the questions becomes difficult and time-consuming at the same time. The logic below provides a trick to address problems involving angles of hands for other than standard aspects.
- $T = 2/11 [H * 30 \pm A]$

CLOCK

Q 1. If the real time is 4 : 40, then what is the time shown by the reflection?

- (a) 7 : 20
- (b) 2 : 50
- (c) 6 : 20
- (d) 7 : 50

CLOCK

Q 1. If the real time is 4 : 40, then what is the time shown by the reflection?

- (a) 7 : 20
- (b) 2 : 50
- (c) 6 : 20
- (d) 7 : 50

CLOCK

Q 2. If the real time is 12 : 30, then what is the time shown by the reflection?

- (a) 12 : 30
- (b) 11 : 30
- (c) 6 : 30
- (d) 1 : 30

CLOCK

Q 2. If the real time is 12 : 30, then what is the time shown by the reflection?

- (a) 12 : 30
- (b) 11 : 30**
- (c) 6 : 30
- (d) 1 : 30

CLOCK

Q 3. If the real time is 11 : 35, then what is the time shown by the reflection?

- (a) 12 : 25
- (b) 11 : 25
- (c) 1 : 25
- (d) 1 : 55

CLOCK

Q 3. If the real time is 11 : 35, then what is the time shown by the reflection?

- (a) 12 : 25
- (b) 11 : 25
- (c) 1 : 25
- (d) 1 : 55

CLOCK

Q 4. If the time shown by the reflection is 12 : 25, then what is the real time?

- (a) 12 : 25
- (b) 12 : 35
- (c) 11 : 35
- (d) 10 : 35

CLOCK

Q 4. If the time shown by the reflection is 12 : 25, then what is the real time?

- (a) 12 : 25
- (b) 12 : 35
- (c) 11 : 35
- (d) 10 : 35

CLOCK

Q 5. At what time between 4 and 5 o'clock are the hands of a clock together?

- (a) 20 min. past 4
- (b) $21\left(\frac{9}{11}\right)$ min past 4
- (c) $21\left(\frac{4}{11}\right)$ min past 4
- (d) $44\left(\frac{10}{11}\right)$ min past 4

CLOCK

Q 5. At what time between 4 and 5 o'clock are the hands of a clock together?

- (a) 20 min. past 4
- (b) 21(9/11) min past 4**
- (c) 21(4/11)min past 4
- (d) 44(10/11)min past 4

CLOCK

Q 6. At what time between 9 and 10 will the hands of a clock be together?

- (a) 45 minutes past 9
- (b) 50 minutes past 9
- (c) $49\left(\frac{1}{11}\right)$ minutes past 9
- (d) $48\left(\frac{2}{11}\right)$ minutes past 9

CLOCK

Q 6. At what time between 9 and 10 will the hands of a clock be together?

- (a) 45 minutes past 9
- (b) 50 minutes past 9
- (c) 49(1/11) minutes past 9**
- (d) 48(2/11) minutes past 9

CLOCK

Q 7. At what time between 5 and 5:30 o'clock will the hands of a clock be at right angle?

- (a) $10(10/11)$ min past 5
- (b) $10(9/10)$ min past 5
- (c) $11(10/11)$ min past 5
- (d) None of these

CLOCK

Q 7. At what time between 5 and 5:30 o'clock will the hands of a clock be at right angle?

- (a) $10(10/11)$ min past 5
- (b) $10(9/10)$ min past 5
- (c) $11(10/11)$ min past 5
- (d) None of these

CLOCK

Q 8. At which of the following times between 3 and 4 o'clock when the angle between the hands of a watch is one-third of a right angle.

- (a) $10(10/11)$ min. past 3
- (b) $10(9/11)$ min. past 3
- (c) $11(9/11)$ min. past 3
- (d) $21(8/11)$ min. past 3

CLOCK

Q 8. At which of the following times between 3 and 4 o'clock when the angle between the hands of a watch is one-third of a right angle.

- (a) $10(10/11)$ min. past 3
- (b) $10(9/11)$ min. past 3
- (c) $11(9/11)$ min. past 3
- (d) $21(8/11)$ min. past 3

CLOCK

Q 9. How many times are the hands of a clock at right angles in a day?

- (a) 24 times
- (b) 48 times
- (c) 22 times
- (d) 44 times

CLOCK

Q 9. How many times are the hands of a clock at right angles in a day?

- (a) 24 times
- (b) 48 times
- (c) 22 times
- (d) 44 times

CLOCK

Q 10. How many times in a day are the hands of a clock straight?

- (a) 48 times
- (b) 24 times
- (c) 44 times
- (d) 22 times

CLOCK

Q 10. How many times in a day are the hands of a clock straight?

- (a) 48 times
- (b) 24 times
- (c) 44 times
- (d) 22 times

CLOCK

Q 11. How many times do the hands of a clock point opposite to each other in 12 hours?

- (a) 6 times
- (b) 10 times
- (c) 11 times
- (d) 12 times

CLOCK

Q 11. How many times do the hands of a clock point opposite to each other in 12 hours?

- (a) 6 times
- (b) 10 times
- (c) 11 times**
- (d) 12 times

CLOCK

Q 12. How many times in a day both hands of clock overlap to each other?

- (a) 24 times
- (b) 20 times
- (c) 21 times
- (d) 22 times

CLOCK

Q 12. How many times in a day both hands of clock overlap to each other?

- (a) 24 times
- (b) 20 times
- (c) 21 times
- (d) 22 times

CLOCK

Q 13. How many times do the hands of a clock point opposite each other between 4 to 6 p.m.

- (a) 2 times
- (b) 1 times
- (c) 3 times
- (d) 4 times

CLOCK

Q 13. How many times do the hands of a clock point opposite each other between 4 to 6 p.m.

- (a) 2 times
- (b) 1 times**
- (c) 3 times
- (d) 4 times

CLOCK

Q 14. At what angle are the two hands of a clock inclined at 15 minutes past 10?

- (a) 150°
- (b) $157(1/2)$
- (c) $142(1/2)$
- (d) None of these

CLOCK

Q 14. At what angle are the two hands of a clock inclined at 15 minutes past 10?

- (a) 150°
- (b) $157\frac{1}{2}$
- (c) $142\frac{1}{2}$
- (d) None of these

CLOCK

Q 15. At what angle are the two hands of a clock inclined at 20 minutes past 5?

- (a) 30
- (b) 45
- (c) 50
- (d) 40

CLOCK

Q 15. At what angle are the two hands of a clock inclined at 20 minutes past 5?

- (a) 30
- (b) 45
- (c) 50
- (d) 40

CLOCK

Q 16. At what times are the hands of a clock at 100° after 6 o'clock?

- (a) $50(10/11)$ min. past 6
- (b) $40(10/11)$ min. past 6
- (c) $14(6/11)$ min. past 6
- (d) None of these

CLOCK

Q 16. At what times are the hands of a clock at 100° after 6 o'clock?

- (a) $50(10/11)$ min. past 6
- (b) $40(10/11)$ min. past 6
- (c) $14(6/11)$ min. past 6**
- (d) None of these

CLOCK

Q 17. At what times are the hands of a clock at 135° after 3 o'clock?

- (a) $40(10/11)$ min. past 3
- (b) $15(10/11)$ min. past 3
- (c) 37 min. past 3
- (d) None of these

CLOCK

Q 17. At what times are the hands of a clock at 135° after 3 o'clock?

- (a) $40(10/11)$ min. past 3
- (b) $15(10/11)$ min. past 3
- (c) 37 min. past 3
- (d) None of these

CLOCK

Q 18. Find at what time between 8 and 9 o'clock will the hands of a clock be in the same straight line but not together.

- (a) $10(10/11)$ past min 8
- (b) $10(9/11)$ min past 8
- (c) $11(10/11)$ min past 8
- (d) None of these

CLOCK

Q 18. Find at what time between 8 and 9 o'clock will the hands of a clock be in the same straight line but not together.

- (a) 10(10/11) past min 8
- (b) 10(9/11) min past 8
- (c) 11(10/11) min past 8
- (d) None of these

CLOCK

Q 19. At what times are the hands of a clock at right angles between 7 am and 8 am?

- (a) $54(6/11)$ min past 7, $21(9/11)$ past 7
- (b) $52(5/11)$ min past 7, $21(8/11)$ past 7
- (c) $56(6/11)$ min past 7, $21(8/11)$ past 7
- (d) None of these

CLOCK

Q 19. At what times are the hands of a clock at right angles between 7 am and 8 am?

- (a) $54(6/11)$ min past 7, $21(9/11)$ past 7
- (b) $52(5/11)$ min past 7, $21(8/11)$ past 7
- (c) $56(6/11)$ min past 7, $21(8/11)$ past 7
- (d) None of these

CLOCK

Q 20. At which of the following times between 4 and 5 are the hands of a clock 3 minutes apart?

- (a) $18(6/11)$ min past 4
- (b) $26(5/11)$ min past 4
- (c) $25(5/11)$ min past 4
- (d) $25(3/11)$ min past 4

CLOCK

Q 20. At which of the following times between 4 and 5 are the hands of a clock 3 minutes apart?

- (a) $18(6/11)$ min past 4
- (b) $26(5/11)$ min past 4
- (c) $25(5/11)$ min past 4
- (d) $25(3/11)$ min past 4

CLOCK

Q 21. At what time between 3 and 4 is the minutehand 4 minutes behind the hour-hand?

- (a) 12 min past 3
- (b) 11 min past 3
- (c) 19 min past 3
- (d) None of these

CLOCK

Q 21. At what time between 3 and 4 is the minutehand 4 minutes behind the hour-hand?

- (a) 12 min past 3
- (b) 11 min past 3
- (c) 19 min past 3
- (d) None of these

CLOCK

Q 22. The minute hand of a clock overtakes the hour hand at intervals of 63 minutes of correct time. How much a day does the clock gain or lose?

- (a) $56\left(\frac{8}{77}\right)$ min gain
- (b) $56\left(\frac{8}{77}\right)$ min lose
- (c) $57\left(\frac{8}{77}\right)$ min gain
- (d) $57\left(\frac{8}{77}\right)$ min lose

CLOCK

Q 22. The minute hand of a clock overtakes the hour hand at intervals of 63 minutes of correct time. How much a day does the clock gain or lose?

- (a) $56\left(\frac{8}{77}\right)$ min gain
- (b) $56\left(\frac{8}{77}\right)$ min lose
- (c) $57\left(\frac{8}{77}\right)$ min gain
- (d) $57\left(\frac{8}{77}\right)$ min lose

CLOCK

Q 23. A watch which gains uniformly, is 5 min slow at 8 o'clock in the morning on Sunday, and is 5 min 48 sec fast at 8 pm on following Sunday. When was it correct?

- (a) 20 min past 7 pm on Tuesday
- (b) 20 min past 7 pm on Wednesday
- (c) 10 min past 7 pm on Tuesday
- (d) 10 min past 7 pm on Wednesday

CLOCK

Q 23. A watch which gains uniformly, is 5 min slow at 8 o'clock in the morning on Sunday, and is 5 min 48 sec fast at 8 pm on following Sunday. When was it correct?

- (a) 20 min past 7 pm on Tuesday
- (b) 20 min past 7 pm on Wednesday
- (c) 10 min past 7 pm on Tuesday
- (d) 10 min past 7 pm on Wednesday

CLOCK

Q 24. A clock is set right at 8 am. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 pm on the following day?

- (a) 28 hrs
- (b) 28 hrs 48 min
- (c) 28 hrs 42 min
- (d) None of these

CLOCK

Q 24. A clock is set right at 8 am. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 pm on the following day?

- (a) 28 hrs
- (b) 28 hrs 48 min
- (c) 28 hrs 42 min
- (d) None of these

THANK YOU