

Clock - Solved Examples

Q 1 - At what point between the hour hand and the moment hand of a clock, the time is 4:35

A - 145°

B - $145^\circ/2$

C - 140°

D - $143^\circ/2$

Answer - B

Explanation

Point followed by hour hand in 12 hours = 360° .

Point followed by hour hand in $275/60$ hrs

i.e. $55/12$ hours

= $(360/12 * 55/12)$

= $(275/2)^\circ$

Angle followed by min. hand in 60 min = 360°

Angle followed by min. hand in 35 min = $(360/60 * 35)^\circ = 210^\circ$

Required angle = $(210^\circ - 275^\circ/2) = 145^\circ/2$

Q 2 - At what time somewhere around 3 and 4 o'clock will the hand of a clock be together?

A - 180/11 min. past 3

B - 180/11 min

C - 120/11 min. past 3

D - 120/11 min

Answer - A

Explanation

At 3 o'clock, the hour hand is at 3 and the minute hand is at 12.
Consequently, they are 15 minutes spaces separated.

To be as one, the minute hand must pick up 15 minutes
throughout the hour hand.

55 Min. are picked up by min. hand in 60 min.
15 min. will be picked up by it in $(60/55 \times 15)$ min. = 180/11 min.

Subsequently the hands will match at 180/11 min. past 3.

Q 3 - At what time somewhere around 7 and 8 o'clock will the hands of a clock be in the same straight line yet not together?

A - 60/11 min. past 7.

B - 30/11 min. past 7.

C - 60/11 min.

D - 30/11 min.

Answer - A**Explanation**

At 7 o'clock, the hour hand is at 7 and the moment hand is at 12.
In this manner, The two hands are 25 min. spaces separated.

To be in the same straight line yet not together,
they will be 30 min. spaces separated.

\therefore The moment hand will pick up (30-25) min.
=5 min. spaces over the hand.
55 min. spaces are gained by hr. hand in 60 min.

5 min. spaces will be picked up by hr. hand in $(60/55*5)$ min.
=60/11min.

\therefore The hands will be in the same straight line
however not together at 60/11 min. past 7.

Q 4 - The moment hand of a clock surpasses the hour hand at interims of 65 minutes of the right time. The amount of a day does the clock pick up or loses?

A - losses

B - picks up

Answer - B**Explanation**

In a right clock, the moment hand picks up 55 min.
Spaces throughout the hour hand in an hour.
To be as one once more,
the moment hand must increase 60minutes over the hour hand.

55 min. are picked up in 60 min.1
60 min. are picked up in $(60/55 \times 60) = 716/11$ min.

Be that as it may, they are as one after 65 min.
 \therefore pickup in 65 min. $(716/11 - 65) = 5/11$ min.
Pick up in 24 hours = $(5/11 \times 1440/65)$ min.
 \therefore the clock picks up = $440/43$ min. in 24 hours.

Q 5 - A watch which picks up consistently is 5 min. slow at 8 o'clock in the morning on Sunday and it is 5 min. 48 sec. quick at 8 p.m on taking after Sunday. At the point when was it right?

A - 20 min. past 4 p.m on Wednesday.

B - 20 min. past 7 a.m on Wednesday.

C - 20 min. past 7 p.m on Wednesday.

D - 20 min. past 4 a.m on Wednesday.

Answer - C

Explanation

Time from 8 a.m on Sunday to 8 p.m on taking after Sunday
= 7 days 12 hours = 180 hours

\therefore the watch increases $(5 + 29/5)$ min.
on the other hand $54/5$ min. in 180 hrs.

Presently $54/5$ min. are picked up in 180 hrs.
 \therefore 5 min. are picked up in $(180 \times 5 \times 5/54)$ hrs.
= 83 hrs. 20 min.
= 3 days 11 hrs and 20 min.

∴ Watch is right 3 days 11 hrs and 20 min. after 8 am of Sunday.
∴ it will be right at 20 min. past 7 p.m on Wednesday.