

Clock and calendar

Clock

A clock has 2 hands, the smaller one is called the hour hand or short hand while the larger one is called the minute hand or long hand.

The face of a clock is a circle which subtends an angle of 360° at the centre.

Some Important Points

In every hour

- (a) Both the hands coincide once. At this point the angle between them is 0° .
 - (b) The hands are straight (point in opposite directions) once. At this point the angles between them are 180° .
 - (c) The hands are twice perpendicular to each other. At this point the angle between them is 90° .
2. (a) In 60 min the minute hand covers 360° .

Thus, in 1 min the minute hand covers $\left(\frac{360}{60}\right) = 6^\circ$

(b) In 12 h the hour hand covers 360° .

Thus, in 1 min the hour hand covers $\left(\frac{360}{12 \times 60}\right) = \frac{1}{2}^\circ$

Thus, in n minutes, the minute hand gains $\left(6 - \frac{1}{2}\right)n = 5\frac{1}{2}n$, than the hour hand.

- (a) When the two hands are at right angles, they are 15 min spaces apart.
 - (b) When the two hands are in opposite directions, they are 30 min spaces apart.
 - (c) In 60 min the minute hand gains 55 min on the hour hand.
 - (d) The minute hand moves 12 times as fast as the hour hand.
4. (a) Too Fast: If a clock indicates 7 : 15, when the correct time is 7, it is said to be 15 min too fast.
- (b) Too Slow: If a clock indicates 7 : 30, when the correct time is 7 : 45, it is said to be 15 min too slow.