

The standard meridian divides the earth into Eastern and Western Hemispheres. Places on the Eastern Hemisphere are in East Longitude; on the Western Hemisphere, in West Longitude.

The English standard meridian is Greenwich. The longitude of Greenwich is  $0^\circ$ .

When two places are on opposite sides of the standard meridian, the difference of longitude is found by adding their longitudes.

The earth turns on its axis (*i.e.*, describes a circumference of  $360^\circ$ ) once in 24 hours. Hence, *longitude* can be expressed in *time*.

$$24 \text{ hours} = 360^\circ, 1 \text{ hour} = \frac{1}{24} \text{ of } 360^\circ = 15^\circ.$$

From this derive the rules given on p. 35.

Since the sun *appears*, to move from east to west, sunrise will occur earlier at all points east and later at all points west of a given place. Hence, clock-time will be later in all places east and earlier in all places west of the standard meridian.

NOTE.—For the sake of convenience, railroads and large cities have agreed to adopt *standard time*. *Standard time* is the clock-time of some meridian agreed upon for the purpose. Eastern standard time, which we use, is the clock-time of the meridian  $75^\circ$  west of Greenwich, *i.e.*, it is exactly 5 hours slow of Greenwich time.

**XII. Percentage.**—Teachers should bear in mind that in teaching business arithmetic it is especially important to combine neatness and clearness with reasonable rapidity. *The shortest methods consistent with clearness are to be preferred.* Mental exercises corresponding to the written should form a part of all work.

In teaching percentage and its applications many skilful teachers like to use formulas. To this course there is no objection, provided that the usual analysis is not neglected. A thorough analysis, mental and written, must precede and introduce all formulas.