To calculate the prayer times for a given location, we need to know the latitude (L) and the longitude (Lng) of the location, along with the local Time Zone for that location. We also obtain the equation of time (EqT) and the declination of the Sun (D) for a given date using the algorithm mentioned in the previous section.

**Dhuhr**

Dhuhr can be calculated easily using the following formula:

Dhuhr = 12 + TimeZone - Lng/15 - EqT.

The above formula indeed calculates the midday time, when the Sun reaches its highest point in the sky. A slight margin is usually considered for Dhuhr as explained in [this note](http://praytimes.org/wiki/A_note_on_Dhuhr).

**Sunrise/Sunset**

The time difference between the mid-day and the time at which sun reaches an angle α below the horizon can be computed using the following formula:

Astronomical sunrise and sunset occur at α=0. However, due to the refraction of light by terrestrial atmosphere, actual sunrise appears slightly before astronomical sunrise and actual sunset occurs after astronomical sunset. Actual sunrise and sunset can be computed using the following formulas:

Sunrise = Dhuhr - T(0.833),  
Sunset = Dhuhr + T(0.833).

If the observer's location is higher than the surrounding terrain, we can consider this elevation into consideration by increasing the above constant 0.833 by 0.0347 × sqrt(h), where h is the observer's height in meters.

**Fajr and Isha**

Fajr = Dhuhr - T(16) and Isha = Dhuhr + T(14).

**Asr**

Asr = Dhuhr + A(1).

**Maghrib**

Maghrib = Dhuhr + T(4).

**Midnight**

midnight is the mean time from Sunset to Fajr, i.e., Midnight = 1/2(Fajr - Sunset).