

Prediction of the start of the Holy month of Ramadhan 1437 Hejriah

The Calculations are done for the Longitude and Latitude of
Makkah AlMukarramah Area and the times are for the Local Time of Saudi Arabia (GMT+3)

Makkah Al-Mukarramah: Latitude = 21.45 ° N , Longitude = 39.82 ° E

Umm-UIQura: [(Monday 01 Ramadhan 1437 Hejriah, 06 June 2016)]

Prediction: [(Monday 01 Ramadhan 1437 Hejriah, 06 & 07 June 2016)] (see below)

New Moon of the Month of Ramadhan occurs on Sunday 05 June 2016 at 06:01 a.m.

Day	(2016) Date	Sun Set	Moon Set	Moon altitude & azimuth & Sun Azimuth at sunset	According to:	
					UmmUIQura	Prediction
Sunday	5 / 6	19:01	19:23	04.2 ° , 288 ° , 295 °	29 Shaaban	29 Shaaban
Monday	6 / 6	19:02	20:23	16.7 ° , 284 ° , 295 °	01 Ramadhan	01 Ramadhan
Tuesday	7 / 6	19:02	21:18	29.0 ° , 279 ° , 296 °	02 Ramadhan	02 Ramadhan

According to the astronomical calculations, the birth of the new moon (conjunction) occurs at about 6:01 am on the morning of Sunday 5 June 2016 and the moon sets about 22 minutes after the Sun at the age of 13 hours and with elongation of more than eight degrees on that evening in Makkah AlMukkaramah, therefore and according to the astronomical calculations and possibility of actual sighting, the sighting of the crescent moon is extremely low (almost not possible) from most of the Islamic countries except those in the middle, and south of Africa. Therefore, there is an extremely low possibility of starting month of Ramadhan on Monday 6 June 2016 for some Islamic countries.

The crescent can be easily sighted by naked eyes on the evening of Monday 6 June 2016 (just after the sunset) in Makkah AlMukkaramah, where the age of the moon will be about 37 hours, it stays about 81 minutes, it is about 16.7 ° above the horizon, its elongation with the Sun is about 20.7 °, about 11.4 ° to left (south) of the setting sun, and its visible part (phase) is about 3.5% of the full moon.

Therefore, according to the astronomical calculations and possibility of actual sighting of the crescent, Inn-Shaa-Allah, Tuesday 7 June 2016 is predicated to be the first day of the month of Ramadhan 1437 H for most of the Islamic countries specially those to the East of 55 ° E longitude. For the others there is an extremely low possibility of starting month of Ramadhan on Monday 6 June 2016 specially for those who do not require eye-sighting of the crescent or go with possibility of sighting the crescent in regions which share part of the night with our region or go with conjunction and Allah has the knowledge (wAllahuAllam).

Note that birth of the "visible" crescent happens after the new moon (conjunction) which may not exceed half a day or it may extend to a day or more depending on the Moon location relative to the Sun, duration of its presence above the horizon, its luminosity (phase), crescent width, and of course the atmospheric condition just after sunset. Adding to that, the physical, psychological, health conditions, eye sensitivity and its speed of adaptation to light, and accumulated experience of the person doing the sighting should be considered as important factors.

For crescent sighting on Sunday evening in Makkah, provided that the sky is dark and clear, free of clouds, dust, and humidity (perfect atmospheric conditions): Starting just after the sunset, the altitude of the moon above the horizon will be about 4.2°, its elongation with the sun is about 8.5 °, it is about 7.0 ° to left (south) of the setting sun (about 12.8 ° north of West direction), and the shape of the crescent moon will be tilted to the left as shown in the figure.



The above prediction is based on astronomical formulas and calculations and theoretical possibility of sighting the crescent which may be used for the purpose of a general guidance and one should go with the method of actual sighting of the crescent, the method which, our Prophet Mohammad SallAllahuAlihiWassallam (ﷺ) guided and ordered us to observe and follow, and Allah has the knowledge.

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