

Prediction of the Start of Month of Ramadhan 1430 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

Prediction: [(30 Shaaban 1430 Hejriah, 21 August 2009)]
[(01 Ramadhan 1430 Hejriah, 22 August 2009)]

New Moon of Month of Ramadhan occurs on Thursday 20 August 2009 at 1:03 p.m.

Day	(2009) Date	Sun Rise	Moon Rise	Sun Set	Moon Set	Moon altitude & azimuth at sunset	According to:	
							UmmUIQura	Prediction
Thu	20 / 8	6:00	5:47	18:48	18:46	Below horizon	29 Shaaban	29 Shaaban
Fri	21 / 8	6:00	6:50	18:47	19:26	8.3 ° , 269 °	30 Shaaban	30 Shaaban
Sat.	22 / 8	6:01	7:52	18:46	20:05	17.0 ° , 258 °	01 Ramadhan	01 Ramadhan

According to the astronomical calculations, the birth of the new moon (conjunction) occurs at about five hours and forty five minutes before sunset on Thursday 20 August 2009, but the moon sets before the sun by about two minutes on that day in Makkah AlMukarramah, therefore and according to calculations and possibility of actual sighting, it is predicated to be impossible to sight the crescent moon on that evening due to its absence (It is below the horizon) as indicated in the above table. But on the evening (just after the sunset) of Friday 21 August 2009, the possibility is very high for the crescent to be sighted even with naked eyes, especially in the west and the southwest of Saudi Arabia, where the age of the moon will be about 29 hours and 45 minutes, it stays about 40 minutes, it is about 8.3 ° above the horizon, its elongation with the Sun is about 17 °, and its visible part (phase) is about 2.33%. Therefore, according to astronomical calculations and actual sighting of the crescent, Inn-Shaa-Allah, Saturday 22 August 2009 is **predicated** to be the first day of the month of Ramadhan 1430 H, 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, provided that the sky is dark and clear, free of clouds, dust, and humidity: just after the sunset, the altitude of the moon above the horizon will be about 8.3 °, its elongation with the sun is about 17 °, it is about 14 ° to left (south) of the setting sun (4 ° left of West direction), and the shape of the crescent moon will be slightly tilted to the right 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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