

## Prediction of the End of Month of Ramadhan & the Start of Month of Shawwal 1429 H

The Calculations are done for the Longitude and Latitude of  
Makkah AlMukarramah Area and the times are for Local Time of Saudi Arabia

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

Prediction [ (30 Ramadhan 1429 Hejriah, 30 September 2008) ]

[ (01 Shawwal 1429 Hejriah, 01 October 2008) ]

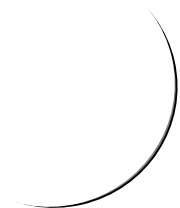
New Moon of Shawwal occurs on Monday 29 September 2008 at 11:13 a.m.

Day	(2008) Date	Sun Rise	Moon Rise	Sun Set	Moon Set	Moon altitude & azimuth at sunset	According to:	
							UmmUIQura	Prediction
Mon	29 / 9	6:11	6:04	18:10	18:04	Below the horizon	29 Ramadhan	29 Ramadhan
Tue	30 / 9	6:12	6:58	18:09	18:39	5.8 ° , 253 °	30 Ramadhan	30 Ramadhan
Wed	1 / 10	6:12	7:51	18:08	19:16	13.4 ° , 244 °	01 Shawwal	01 Shawwal

According to the astronomical calculations, the birth of the new moon (conjunction) occurs at about 11:13 a.m. on Monday 29 September 2008. The moon sets on that day before the sun by about six minutes in Makkah AlMukkaramah, therefore and according to astronomical calculations and 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. Therefore, we may fast the full thirty days. On the evening (just after the sunset) of Tuesday 30 September 2008, the probability is that the crescent could be sighted but with some difficulty in the west and the southwest of Saudi Arabia, where the age of the moon will be about 31 hours, it stays about 30 minutes, it is about 6 ° above the horizon, its elongation with the Sun is more than 15 °, and its visible part (phase) is about 1.92%. Therefore, Inn-Shaa-Allah, Wednesday 1 October 2008 is **predicated** to be the first day of the month of Shawwal 1429 H, and Allah has the knowledge (wAllahuAllam).

Note that birth of the "visible" crescent moon 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. Usually the contrast is very small between the color and brightness of the crescent and the sky, which adds difficulty to observation.

**For crescent sighting**, provided that the sky is clear, free of clouds, dust, and humidity: just after the sunset on Tuesday 30 September 2008, the altitude of the moon above the horizon will be about 6 °, its elongation with the sun more than 15 °, it will be about 14 ° to the left (south) of the setting sun (Sun's altitude will be 267 °, where West direction is 270 °), and the shape of the crescent moon will be slightly 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 SallAllhuAlihiWassallam (ﷺ) guided and ordered us to observe and follow, and Allah has the knowledge.

\* There is a very weak possibility of sighting the crescent in Sothern parts of South America only using optical aids and with very extreme difficulty, therefore the start of month of Shawwal for those regions ONLY may be on Tuesday 30 September 2008 and Allah has the knowledge.

Dr. Ali Mohammad Al-Shukri , Physics Department , KFUPM  
Box 5047 , Dhahran 31261 , Saudi Arabia - Phone: 860-2255 - fax: 860-2293  
email: [alshukri@kfupm.edu.sa](mailto:alshukri@kfupm.edu.sa) Homepage: <http://faculty.kfupm.edu.sa/phys/alshukri>