

PERHITUNGAN AWAL RAMADHAN 1435 H KOTA KENDAL

- Lintang Tempat (P) = $-6^{\circ} 57'$
 - Bujur Tempat (d) = $110^{\circ} 11'$
 - Tinggi (h) Tempat = 5 Meter
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1. IJTIMAK : Senin, 27-06-2014 Pukul 15.10.20,69 WIB

2. Mencari sudut waktu Matahari (t_{\odot}) saat terbenam

Deklinasi Matahari (δ_{\odot}) Pukul 11.00 GMT : $23^{\circ} 18' 39''$

Equation of time (e) : $-3' 03''$

Tinggi Matahari Terbenam (h) : $-0^{\circ} 54' 9,85''$

Waktu Zawal atau Merpas (m) : $12^{\circ} 3' 3''$

$\cos t_{\odot} = -\tan P \cdot \tan \delta_{\odot} + \sec p \cdot \sec \delta \cdot \sin h$

$$= -\tan -6^{\circ} 57' \times \tan 23^{\circ} 18' 39'' + \sec -6^{\circ} 57' \times \sec 23^{\circ} 18' 39'' \times \sin -0^{\circ} 54' 9,85''$$

$$t_{\odot} = 87^{\circ} 58' 49,14$$

3. Mencari Saat Matahari Terbenam

$$\begin{aligned} \text{Waktu hurub} &= \frac{t_{\odot} - B_j + W}{15} + M \\ &= \frac{87^{\circ} 58' 49,14 - 110^{\circ} 11' + 105^{\circ}}{15} + 12^{\circ} 3' 3'' \\ &= 17.34.14,28 \end{aligned}$$

Waktu Terbenam tanggal 27-06-2014 jam 17.34.14,28 WIB atau jam 10.34.14,28 GMT

4. Posisi Hilal pada hari Ijtimak

- AR \odot Jam 10.00 GMT : $96^{\circ} 11' 55''$

Jam 11.00 GMT : $96^{\circ} 14' 30''$

$96^{\circ} 13' 23,43''$

- Asensio Rekta Matahari Pukul 17.34.14,28 WIB $\Rightarrow 96^{\circ} 13' 23,43''$

- AR \odot Jam 10.00 GMT : $96^{\circ} 53' 03''$

Jam 11.00 GMT : $97^{\circ} 24' 54''$

$97^{\circ} 11' 13,24''$

- Asensio Rekta Bulan Pukul 17.34.14,28 WIB $\Rightarrow 97^{\circ} 11' 13,24''$

5. Mencari sudut waktu Bulan (t_{C})

$$\begin{aligned} t_{\text{C}} &= AR_{\odot} - AR_{\text{C}} + t_{\odot} \\ &= 96^{\circ} 13' 23,43'' - 97^{\circ} 11' 13,24'' + 87^{\circ} 58' 49,14'' \\ &= 87^{\circ} 0' 58,99'' \end{aligned}$$

6. Mencari Deklinasi Bulan (δ_{C})

$$\delta_{\text{C}} \text{ Jam 10.00 GMT} : 18^{\circ} 32' 09''$$

$$\text{Jam 11.00 GMT} : \underline{18^{\circ} 29' 47''}$$

$$18^{\circ} 30' 47,99''$$

$$\Rightarrow \text{Deklinasi Bulan Pukul 17.34.14,28}$$

$$\Rightarrow 18^{\circ} 30' 47,99''$$

7. Tinggi Hilal hakiki (h)

$$\begin{aligned} \sin h &= \sin P \times \sin \delta_{\text{C}} + \cos P \times \cos \delta_{\text{C}} \times \cos t_{\text{C}} \\ &= \sin -6^{\circ} 57'' \times \sin 18^{\circ} 30' 47,99'' + \cos -6^{\circ} 57'' \times \cos 18^{\circ} 30' 47,99'' \times \cos 87^{\circ} 0' \\ &\quad 58,99'' \\ &= 0^{\circ} 37' 50,44'' \end{aligned}$$

$$\Rightarrow \text{Tinggi Hilal di Kendal tanggal 27-06-2014 Pukul 17.34.14,28} = \mathbf{0^{\circ} 36' 3,28''}$$

8. Tinggi Hilal Mar'i (h')

$$H_{bl'} = h_o + \text{Refraksi} + \text{Dip } h_{bl'}$$

$$h = 0^{\circ} 35' 36,67''$$

9. Azimut Bulan (A_{C})

$$\begin{aligned} \tan A &= \frac{\cos P \cotan \delta_{\text{C}} - \sin P \cdot \cos t_{\text{C}}}{\sin t_{\text{C}}} \\ &= \frac{\cos -6^{\circ} 57' \times 15^{\circ} 41' 51'' \times \cos -6^{\circ} 57' \times \cos 95^{\circ} 54' 49,26''}{\sin 95^{\circ} 54' 49,26''} \end{aligned}$$

$$A_{\text{C}} = 14^{\circ} 59' 58,09''$$

10. Azimut Matahari (A_{\odot})

$$\tan A = \frac{\cos P \cotan \delta_{\odot} - \sin P \cdot \cos t_{\odot}}{\sin t_{\odot}}$$

$$\sin t = \frac{\cos -6^{\circ} 57' \times \cotan 19^{\circ} 23' 34'' - \sin -6^{\circ} 57' \times \cos 88^{\circ} 30' 20,14''}{\sin 88^{\circ} 30' 20,14''}$$

$$A = 19^{\circ} 25' 51,62''$$

Kesimpulan :

1. Ijtima' akhir Sya'ban 1435 H jatuh pada hari Senin 27-06-2014 jam 15.10.20,69 WIB
2. Tinggi Hilal Haqiqi untuk Kota Kendal pada hari Senin 27-06-2014 jam 15.10 WIB adalah **0° 36' 03,28"**
3. Tinggi Hilal Mar'i untuk Kota Kendal pada hari Senin 27-06-2014 jam 15.10 WIB adalah **0° 35' 36,67"**
4. Posisi hilal (beda Azimut) = **- 4° 25' 53,53"**.
5. Untuk kepastian tanggal 1 Ramadhan 1435 H menunggu hasil itsbat dari Pemerintah

JADWAL IMSAKIYAH BULAN RAMADLAN 1435 H KOTA KENDAL

Rmd	Tgl	Imsak	Subuh	Terbit	Dhuha	Zuhur	Ashar	Magrib	Isya'
1	29 Juni	04:19	04:29	05:49	06:12	11:45	15:06	17:36	18:51
2	30 Juni	04:19	04:29	05:49	06:12	11:45	15:06	17:37	18:52
3	1 Juli	04:20	04:30	05:49	06:12	11:45	15:07	17:37	18:52
4	2 Juli	04:20	04:30	05:49	06:12	11:45	15:07	17:37	18:52
5	3 Juli	04:20	04:30	05:50	06:13	11:45	15:07	17:37	18:52
6	4 Juli	04:20	04:30	05:50	06:13	11:46	15:07	17:38	18:52
7	5 Juli	04:20	04:30	05:50	06:13	11:46	15:07	17:38	18:52
8	6 Juli	04:21	04:31	05:50	06:13	11:46	15:08	17:38	18:53
9	7 Juli	04:21	04:31	05:50	06:13	11:46	15:08	17:38	18:53
10	8 Juli	04:21	04:31	05:50	06:13	11:46	15:08	17:38	18:53
11	9 Juli	04:21	04:31	05:50	06:13	11:46	15:08	17:39	18:53
12	10 Juli	04:21	04:31	05:50	06:13	11:47	15:08	17:39	18:53
13	11 Juli	04:21	04:31	05:50	06:13	11:47	15:08	17:39	18:53
14	12 Juli	04:22	04:32	05:50	06:13	11:47	15:09	17:39	18:54
15	13 Juli	04:22	04:32	05:50	06:13	11:47	15:09	17:40	18:54
16	14 Juli	04:22	04:32	05:51	06:14	11:47	15:09	17:40	18:54
17	15 Juli	04:22	04:32	05:51	06:14	11:47	15:09	17:40	18:54
18	16 Juli	04:22	04:32	05:51	06:14	11:47	15:09	17:40	18:54
19	17 Juli	04:22	04:32	05:51	06:14	11:47	15:09	17:40	18:54
20	18 Juli	04:22	04:32	05:51	06:14	11:47	15:09	17:40	18:54
21	19 Juli	04:22	04:32	05:51	06:14	11:48	15:09	17:41	18:54
22	20 Juli	04:22	04:32	05:50	06:13	11:48	15:09	17:41	18:54
23	21 Juli	04:22	04:32	05:50	06:13	11:48	15:09	17:41	18:54
24	22 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:41	18:54
25	23 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:41	18:54
26	24 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:41	18:54
27	25 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:41	18:55
28	26 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:42	18:55
29	27 Juli	04:22	04:32	05:50	06:13	11:48	15:10	17:42	18:55