

GMN = 5^h 24^m 16^s

5774

rel 3 Sept

rel 23 30^m

	CT	CE	x	x ²	y	xy	y ²
20 Aug	5 ^h 1 ^m 17 ^s	22 ^m 59 ^s	-14	196	-31	434	961
24	5 1 6	23 10	-10	100	-20	200	400
1 Sept	5 0 47	23 29	-2	4	-1	2	1
3	5 0 44	23 32	0	0	2	0	4
8	5 0 31	23 45	5	25	15	75	225
10	5 0 27	23 49	7	49	19	133	361
14	5 0 18	25 58	11	121	28	308	784
			-3	495	12	1152	2236

$$\bar{x} = \frac{-3}{7}$$

$$\bar{y} = \frac{12}{7}$$

$$n = 7$$

$$A = \frac{n\bar{x}\bar{y} - \sum xy}{n\bar{x}^2 - \sum x^2} = \frac{7(-\frac{3}{7})\frac{12}{7} - 1152}{7(-\frac{3}{7})^2 - 495} = \frac{36 + 7 \cdot 1152}{-9 + 7 \cdot 495} = \frac{8064}{3465} = \frac{300}{32} = 9.375$$

$$= \frac{64 + 11}{32} = 2.34$$

$$C = \bar{y} - A\bar{x} = \frac{12}{7} + 2.34 \cdot \frac{3}{7} = \frac{19.02}{7} = 2.717$$

greenwich mean noon 15 Sept $\Rightarrow x = 12 - 0.225 = 11.775$

$$y = Ax + C = 2.34 \cdot 11.775 + C = 27.61$$

CE = 24^m 0^s, slow
 CR = 2.3, hours, per day
 at GMN 15 Sept

$$r^2 = \frac{(n\sum xy - \sum x \sum y)^2}{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)} = \frac{(7 \cdot 1152 + 3 \cdot 12)^2}{(7 \cdot 495 - 9)(7 \cdot 2236 - 144)} = \frac{6561 \cdot 10^4}{2156 \cdot 19008} = \frac{3.53857}{4.27893} = 0.99877$$

1152
7
8064
26
8100

0.34
32 11.0
96
140
128
120

2.34
11.8
18.72
2.34
23.4
27.612

400
-10
900
60
900
4
-120
2736
7
19152
144
19008

81
81
648
567