GMT = $5^h 24^m 16^s$

#1969	CT	CE	real 1 Sept x	x^2	rel $2^m 50^s$ y	xy	y^2
18 Aug	$5^h 21^m 38^s$	$2^m 38^s$	−14	196	−12	168	144
22	5 21 33	2 43	−10	100	−7	70	49
29	5 21 27	2 49	−3	9	−1	3	1
2 Sept	5 21 23	2 53	1	1	3	3	9
7	5 21 19	2 57	6	36	7	42	49
9	5 21 18	2 59	8	64	9	72	81
13	5 21 14	2 62	12	144	12	144	144
			0	550	11	502	477

$\bar{x} = 0$ $\quad \bar{y} = \frac{11}{7}$ $\quad n = 7$

$$r = \frac{n\bar{x}\bar{y} - \Sigma xy}{n\bar{x}^2 - \Sigma x^2} = \frac{502}{550} =$$

$$= 1 - \frac{48}{550} = 1 - \frac{24}{275} \approx 1 - \frac{24}{276} = 1 - \frac{2}{23} = 0.91$$

$$c = \bar{y} - r\bar{x} = \frac{11}{7} = 1.57$$

For Greenwich mean noon 15 Sept, $x = 14 - \frac{5^h 24^m 16^s}{24^h} \approx 14 - \frac{5.4}{24} = 14 - 0.225 = 13.775$

$y = rx + c = (1 - 0.09) \cdot 13,775 + c = 14.11$

$= 13.775 - 9 \cdot 0,1378 + c =$

$1.378 \times 9 = 12.402$

$0.138 \times 9 = 1.242$

$13.78 - 1.24 + 1.57 = 14.11$

At last add $2^m 50^s \Rightarrow$ **$\angle E = 3^m 4^s$ slow for GMN 15 Sept**

$CR = 0.9^s$ per day, losing

$$r^2 = \frac{(n\Sigma xy - \Sigma x \Sigma y)^2}{(n\Sigma x^2 - (\Sigma x)^2)(n\Sigma y^2 - (\Sigma y)^2)} = \frac{(7 \cdot 502)^2}{7 \cdot 550 \,(7 \cdot 477 - 121)} = \frac{7 \cdot 502^2}{550 \cdot 3218} =$$

$$= \begin{vmatrix} 2.700270 \\ 2.700270 \\ 0.845160 \\ \hline 6.245700 \\ 2.724036 \\ \hline 3.506140 \\ 3.507569 \\ \hline 9.998855 \end{vmatrix} = 0.999427$$

477
7
3339
121
3218