

KG
11366
v. 733

at α β Drac. 17 27 45
on Mar 7 α β
obs. 206 219
circ. 169 526
+ including Polaris gives
circ. 226 659

Beacons' Note Books
Dec 28, 1880 to July 30

CS.

6
2
9
2

Wilbur V Brown. - Record.

Oct. 28 - B 3 1876-7 From begin-
ning to $17^h 27^m 37^s$ the TS - 4m

Oct. 29 - B 3 1876-7 Finished.

Checked B 1 1876-7 from begin-
ning to $1^h 7^m 11^s$

Oct. 30 - B 1 1876-7 checked from
 $1^h 7^m 11^s$ to $4^h 15^m 44^s$

Nov. 1 - B 1 1876-7 finished check-
ing + also B 2 as far as $7^h 26^m 37^s$

Nov. 2 - B 2 to $9^h 24^m$

" 3 - B 2 to $11 20 58$

Nov. 4 - B 2 finished checking.
+ B 4 from beginning to
 $20^h 17^m 45^s$

Nov. 5 - B 4 checked to $21^h 55^m$
+ Inclination data lat for decli-
nation wires taken out to $3^h 31^m 19^s$

Nov. 6 - Finished B. 4 1876-7
+ Declination wires to $8^h 25^m 46^s$
" 8 - Declination wires $9 53 56$

" 9 -

" 10 - Checked B 5 Supplemental
from beginning to $19^h 40^m 19^s$

" 11 - Checked $^{15} \log \cos \delta$ ^{tan i} in B 1
1877 + B 2 to $10^h 54^m 17^s$

Nov. 12 — B 2 1877 Checked all
except $\log \cos \delta + 15 \log \cos \delta \tan i$
all except the signs. Neither have
the signs been checked in B 1 1877.

Nov. 13 — Checked signs of $15 \log \cos \delta$
 $\tan i$ in B 1 1877. Checked all
of B 3 1877 + Maskelyne B 2
+ B 1 1876 the $\log \cos \delta$ to $5^h 3^m 10^s$

Nov. 13 — P.M. — Finished checking the
 $\log \cos \delta$ of B 1 '76 + B 2 '76.

Nov. 15 — checked $15 \log \cos \delta \tan i$
in B 1 + 2 1876 to ~~16 38 57~~
+ in B 3 to 16 38 57

Nov. 16 — Finished checking the
 $15 \log \cos \delta \tan i$ in B 3 1876
also the signs of $\log \cos \delta$ in B 2 1877.

Checked B 4 1876 + B 5 1876.

Nov. 17. — Checked the $\log T_m - T_\delta$
in B 1 1876 to $2^h 35^m$ + in
B 2 1876 to 6 26

Nov. 18 — Finished checking the $\log T_m - T_\delta$
in B 1 1876 + in B 2 to $7^h 32^m$ Aug 27.

Nov. 19 — Finished checking the
 $\log T_m - T_\delta$ in B 2 1876 + B 3 to $12^h 58^m$

Nov. 20 — Checked $\log T_m - T_\delta$ in
B 3 1876 to $(11) 5^h 39^s$

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Nov. 22 - Checked in B 3 1876
the rest of $\log T_m - T_\odot$ + the
same in B 4 to $19^h 44^m 41^s$

Nov. 23 - Checked $\log T_m - T_\odot$ in
B 4 1876 to $22^h 50^m 44^s$ (June 15)
P.M. Finished B 4 + in B 5
the same to sp. 32

Nov. 24 - Finished checking the
 $\log T_m - T_\odot$ in B 5 1876 - 77

Checked [$\log (T_m - T_\odot) + \log 15 \cos \delta \tan i$]
in B 1 to $0^h 37^m 18^s$

Dec. 9 Checked [$\log (T_m - T_\odot) + \log 15 \cos \delta \tan i$]
in B 4 1876 - 7 to $20^h 37^m 10^s$ (Sept. 2)

Dec. 10. Finished the above in B 4
+ checked in B 2 1876 - 7 the
 $\log^{-1} [\log (T_m - T_\odot) + \log 15 \cos \delta \tan i]$ to
 $6^h 36^m$

Dec. 18 Today completed finding the
 $\text{anti-log}^{-1} [\log (T_m - T_\odot) + \log 15 \cos \delta \tan i]$ in
B 2 1876 - 7 + B 3 the same + checked
Miss Winlock's work on the same in B 4
to $20^h 23^m$

Dec. 20 Checked the rest of
the same in B 4

Dec. 21 Checked the same in
B 1 to $1^h 36^m$

Dec. 22 Checked the same in B 4
to $4^h 32^m$

Jan 1. 1881 Checked the same
in B 1 to $4^h 53^m$

Jan. 3 - Finished checking the same
in B 1 1876-77 + applied the ~~reduction~~
reduction to the middle wire, in
B 4 to $19^h 20^m$

Jan. 4 - Finished applying the a-
bove reduction to middle wire
in B 4

Jan 5. Checked the applying of
the above reduction in B 2 1874-7
to $(10) 22^h 7^m 24$

Jan. 6 - Finished checking the a-
bove reduction in B 2 + check-
ed in B 3 to $(17) 5 1 59$

Jan 7 Finished checking the corrected
circle readings in B 3 1876-7

~~Checked the same in B 2 + $\frac{1}{2}$ in B 1~~
to $1^h 12^m 59^s$

Jan. 8 Finished checking the correct-
ed circle readings in B 1 1876-7 and
applied the R.D. to uncorrected circle
readings in B 5 - Supplemental p. 2

P.M. - Applied R.D. R.I. in B 5
to ~~to~~

Jan 10 - checked the corrected
circle readings in B 4 to 21 59

and also checked all of B 5

Jan. 11 — Finished checking B 4. 1876
+ then applied the equation for
change of zenith distance into Declin-
ation, or $\varphi - z = \delta$ in B 1 1876 to $147^{\circ} 44^{\circ}$

Jan 12 — The same in B 1 to $6^{\circ} 0' 16''$
Jan 13 Finished $\varphi - z = \delta$ in B 1
+ in B 2 to $11^{\circ} 39' 27''$

Jan. 14 — Finished $\varphi - z = \delta$ in B 2 ~~to~~
and in B 3 to $17^{\circ} 37' 41''$

Jan. 15 — Finished B 3 and then
checked $\varphi - z = \delta$ in B 1 to $2^{\circ} 31' 43''$

Jan. 17 — Checked $\varphi - z = \delta$ in B 1 to
 $6^{\circ} 0' 16''$

Jan. 18 — Finished checking B 1 +
in B 2 to $9^{\circ} 45' 39''$

Jan. 19 — Finished checking $\varphi - z = \delta$ in B 2
+ in B 3 to $14^{\circ} 6' 14''$

Jan. 20 — ~~Finished~~ Checked in B 3 to
 $17^{\circ} 27' 37''$

Jan. 21 — Finished checking B 3 + in
B 4 to $20^{\circ} 17' 45''$

Jan. 22 — Checked in B 4 to $22^{\circ} 50' 49''$

Jan P.M. Finished checking B 4

Jan. 24 — Checked $\varphi - z = \delta$ in B 5
+ found the $\delta = \varphi - \delta$ in B 1, B 2
+ in B 3 to $14^{\circ} 51' 5''$

Jan 25. — Finished the $B = \varphi - \delta$
in B 3, B 4, + B 5; and check-
ed the same in B 1, B 2, + B 3
to $15^h 10^m 17^s$

Jan. 26 — Finished checking the
 $B = \varphi - \delta$ in B 3, B 4, + B 5; + ap-
plied the Reg in B 1 to $2^h 21^m 31^s$

Jan. 27 — Finished the Reg. in B 1

Jan. 28 — Applied Reg in B 2 to
 $11^h 2^m 08^s$

Jan. 29 — Applied Reg. in ~~B~~ rest of
B 2 + in B 3 to $16^h 7^m 48^s$

P.M. — the same to $17^h 1^m 59^s$

Jan. 31 — Finished applying Reg in B 3,
+ in B 4 to $21^h 28^m 28^s$

Feb. 1 — Applied Reg in rest
of B 4 and in B 5; + ~~the~~ $\mu + \log \tan z$ in B 1 to $0^h 49^m 11^s$

Feb. 2. — The same as above
to $3^h 23^m 58^s$

Feb. 3 — Finished $\mu + \log \tan z$ in
B 1 + in B 2 to $7^h 12^m 39^s$

Feb. 4 — Finished B 2, + in B 3
to $13^h 6^m 2^s$ + P.M. to $14^h 9^m 58^s$ (Jan. 19)

Feb. 5 — Finished B 3.

Feb. 7 — B 4 to $22^h 37^m 9^s$.

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Feb. 8. - Finished B 4 + B 5
+ applied Reg in B 1 '77 to p 68
(Maskelyne)

Feb. 9 - Finished B 1 + B 2 of
'77 (Maskelyne) + also applied the Reg in B 3
'77 commencing where Miss Winlock
left off at $22^h 10^m$. Then
applied formula $\mu + \log \tan z$ in
B 1 '77 to $1^h (13) 34^m 11^s$

Feb. 10 - Continued $\mu + \log \tan z$
in B 1 to $8^h 9^m 44^s$

Feb. 12 - Took out B + T + r for B 1
to $4^h 32^m$

Feb. 15 - Finished B 1 + in B 2
to $7^h 32^m 45^s$

Feb. 16 - Finished B 2 + in B 3 to
 $13^h 9^m 13^s$

Feb. 18 - ~~Appl~~ Found B + T + r for
B 3 to $5^h (17) 23^m 1^s$

Feb. 21 Since Feb. 18 have found
B + T + r for rest of B 3, in B 4,
+ in B 5 to $23^h 55^m 31^s$

Feb. 23 - Finished B 5 + then
applied the B + T + r in B 1 to
 $14^h 9^m$.

Feb. 24, 1881 — Applied B + T + X
in rest of B 1 + in B 2 to
 $11^h 2^m 38^s$

Feb. 25 — Finished B 2, B 3,
+ in B 4 to $19^h 33^m 5^s$.

Feb. 26 — Finished B 4, B 5 +
checked in B 1 to $4^h 28^m 45^s$ (Jan. 20)

Feb. 28 — checked rest of B 1, B 2,
+ in B 3 to $16^h 38^m 37^s$

Mar. 1 — Finished checking B 3,
B 4, + B 5 + took out the
log⁻¹ in B 1 to $1^h 12^m 59^s$ (May 25)

Mar. 2 — Continued in B 1 to $4^h 37^m 36^s$

Mar. 3 — Checked these logs⁻¹ as far as
I had gone in B 1 + then continued
taking them out to $4^h 37^m 46^s$

Mar. 4 — Finished taking out the logs⁻¹ in
B 1 + in B 3 to $16^h 11^m 42^s$

Mar. 5 — Finished checking B 1
+ checked in B 3 to $16^h 11^m 42^s$
+ then continued the logs⁻¹ to $16^h 38^m 14^s$

Mar. 7 — Finished B 3, + B 5
+ Miss Bond finished B 2, + I
checked in B 3 to 16 58

Mar. 8 — Finished checking B 3
+ in B 2 to $9^h 24^m 29^s$

Mar. 9 — Finished checking B 2

+ in B 4 to $21^h 33^m 9^s$

B 4 was done by Miss Bond.

Mar. 10 - Finished checking B 4
+ B 5.

Mar. 11 - Took out R_m in B 1 to
3 40 3

Mar. 12 - Took out R_m in rest of
B 1 + in B 3 to 15 10 17

P.M. - Continued to 17 27 37

Mar. 14 - Finished R_m in B 3 +
B 5 + checked the same in B 1 to
1877 (Miss Saunders') to $14^h(2) 51^m 57^s$

Mar. 15 - Continued checking B 1 '77
to 4 32 3

Mar. 16 - Finished checking B 1 '77
+ in B 2 to 15 13 13

Mar. 17 - Finished B 2, B 3, B 1
~~in~~ Maskelyne, + in B 2 Maskelyne
to p 38.

Mar. 18 - Finished checking the
 R_m in B 2 Maskelyne '77 +
checked the runs in B 1 '76 to
4 12 41

Mar. 19 - Finished B 1 + in
B 2 to 7 26 37 (Mar. 18)

P.M. Continued to 8 52.22

Mar. 21 - Continued B 2 to
11 44 11

Mar. 2³~~2~~ - Finished checking the runs in B 2 + in B 3 to 15 39 33

Mar. 24 - Continued in B 3 to 18 6 17

Mar. 25 - Finished B 3 + in B 4 to 21 28 28

Mar. 26 - Finished checking the runs in B 4 + B 5 ~~to 19 44 41~~ + applied the run constant in B 4 to 19 44 ~~41~~ 47 30

Mar. 28 - Finished the run constant in B 4 + then took out apparent place in B 1 to B 49 11.

Mar. 29. - Checked the sum of the refraction, runs, + Rmd in B 1 '76 to 2 5 18

Mar. 30 Checked this same sum in B 1 to ~~3 4 10~~ + in B 2 to 7 17 58

Mar. 31 - Continued in B 2 to 21 (9) 27 2 then in B 3 to 14 9 58 + then back to B 2 + continued to 11 7 27

Apr. 1 - Finished checking B 2 + in B 3 to 15 58 10

Apr 4 - Finished B 3.

Apr. 4. Checked the sum of Ref. Rnd.
constant of runs, & runs in B4 to 22 15 12

Apr. 5. — Finished the above in B4
+ B 5 + checked in B1 to 0 30 1
the adding of this sum to the old

Apr. 6 — Continued checking to
4 48 57

Apr. 7 — Finished B1 + in B 2 to
8 50 38 + to 9 24 29

Apr. 8. — Finished B 2 + in B 3
to 14 6 14

Apr. 9 — Finished checking the sums in
B 3. — (See # 13^h 28^m 19^s) —
+ in B 4 to 20 13 4

Apr. 11 — Finished checking the
sums in B 4

Apr. 12 — Finished the sums in B 5
+ took out the apparent place
in B 1 to 2 0 8

Apr. 13 — Took out apparent
pl. in B 1 to 5 18 23 (mar. 7)

Apr. 14 — Took out apparent
pl. in B 2 from 8 50 38 to end,
+ in B 3 from 3 (15) 4 32 to
16 30 4.

Apr. 15 — Took out app. pl in
B 4 + B 5 to p. 32

Apr. 16 — Finished app. pt. in
B 5 + checked the means in
B 1, 2 + 3.

Apr. 18 — Finished checking the
means. in B 4 + 5 + took
Eq. pt. cor + flex. in B 1 to
4 52 18

Apr. 19. — Took out Eq. pt. cor.
+ fl. in B 1 to 5 11 32

Apr. 20 — Continued the same
to end of B 1 + in B 3 to
15 (3) 4 32 + then filled out
the dates for July 13 in B 3
to 15 43 6

Apr. 21 Wrote up the special
working list for Collimation ob-
servations + continued the filling
out of July 13 observations to
16 4 40 00

Apr. 22. Finished B 3 + in B
4 to 19 26 33 Also contin-
ued July 13 observations to end +
filled out ^{high} ~~certain~~ Rrf. observations
in all of B 3.

Apr. 23 — Checked the (Reg. + Rrf)
in B 2 + B 4, which were done
by Miss Bond.

Apr. 26 - Checked the Reg +
Rrf. in B 1 + 3

On Apr. 25 I took out the
Reg + Rrf in B 5 + did some
miscellaneous work.

Apr. 27 - Checked the Reg + Rrf in
B 5 + applied the Corr. δ in B
1 2 + 3 + in B 4 to 18 45 28

Apr. 28 - Applied Corr. δ in B 4
+ B 5; + took out sin z in B 1
B 2, + in B 3 to 16 14 22

July 7 - Mr. Rogers went for a
vacation to New London, Conn.

address to care of Geo. H. Powers

Aug. 11 - At noon today I finished
making out the sheets for the zone
reductions. The number of dates
is 633. The number of sheets is
about 700.

Aug. 19, 1881 - Yesterday finished the
reversal of the Meridian Circle, on
the circle errors of which we have
been at work since about Aug. 1

Today I started on the zone compu-
tations + have sheets to ~~332~~ .306
to 332.

Aug. 29, Today I finished the

sheets 306-332 and started on
344 - 359

Mar. 27, 1882 As my work on
the Zone Reduction sheets promised
to be about the same thing for
a long time, I ceased to keep
any record of my daily
work. It being desirable
to have such a record, I will
now fill up, as far as possi-
ble, ~~the~~ time which has elapsed,
from memory.

I continued on those reduction
sheets till the morning of
Sept 6; when I stopped
all computing on account of
my eyes; and did not resume
it till Dec. 12.

I then took the Tm-T5 in
C 23 to July 13, $16^h 29^m 45^s$ + ckcd

I was then put on the year
1873 + have done all the work
in that year except a little Miss
Winlock did in C 20. I also
did a little of 2 dates of 1874 which
occur in C 18

My work in this year began with

C

C 16. Then I took 1875 & did the same with that up to C 33 in which I have gone as far as taking the $T_m - T_5$, checking it, & taking logs. to ~~Dec~~ Dec. 6, $0^h 59^m 40^s$.

In this year Miss Bond did in C 32 the $T_m - T_5$, its log., $\Phi - Z$, & the application of Reg., & the log $\cos \delta$.

I also prepared the sheets containing the $[AT + m]$, h' , & Rfl for both these years & checked them.

In all the books the work is carried to the point where the the corrections for both δ & R.A. are ready to be added before the reduction to afofs. pl. I also have interpolated the Rfl. on the Reduction sheets for both years.

Mar. 28 Finished taking out (log $T_m - T_5$) in C 33, then took $\Phi - Z = \delta$, also its applied Reg., took (log $\tan \delta$), & ~~applied~~ ^{added} ~~log $15 \tan \delta \cos \delta + \log$~~ & took log $15 \tan \delta + \log \cos \delta + \log(T_m - T_5)$ as far as

Nov. 17, $22^h 22^m 19^s$. Of course all the above applies only to that part of 1875 which is in C 33

I did nothing with the dates
of 1876

Mar. 29 Finished adding log 15 tan i
+ then took out + applied
the logs⁻¹ for all the 1875
dates in the book.

Mar. 30 Worked till 11.15 + then
went home sick. The work
done will be included in the
record of

Mar. 31. Subtracted the R_{in} for
all dates of '75, took out
 $\Delta T + m$, $n \tan \delta$, K , R_{ind} , R_{rs} ,
 ~~R for all dates, + R_{rf} for~~
~~all dates but that of Dec 14~~
and all the R_{rf} .

Apr. 1 Took out R_{rf} in C 33 for 1875
+ then interpolated the $R_{ap.pl.}$ on
the zone reduction sheets for
the month of Jan. 1878, ex-
cept Jan. 7. Also did
for Feb. 2

Apr. 3 Interpolated $Ap.pl.$ on
sheets 599, 599', 600, 600', 597,
597', 611, + partially on 598, 598'

Apr. 4 Interpolated app. pl. on Zone
reduction sheets 612, 613, 613', 614, 614',
615, 616, 616', 617, 618, & 487, 488

Apr. 5 Interpolated app. place on Zone
reduction sheets 489 - 490 - 491 - 493
494 - 495 - 496 - 497 - 500 - 501 - 503 - 504
511 - 512 & partially on 499 & 502,
sheets which were in need of correction
in R.A.

Apr. 6. Interpolated sheets 505 - 510
inclusive.

Apr. 7. Interpolated sheets 498, and
514 to 525 (inclusive) also 513
partially.

Apr. 8 Interpolated sheets 526 - 537
(inclusive). 533 was done partly.

Apr. 10 Interpolated sheets 538 - ~~543~~
(539 & 539' being partly only -)
also 564 & partially 564'

Apr. 11 Interpolated sheets 561, 561', 563
563'. Partially did 562, 562'
566. Also took out the differ-
ences, preparatory to having Miss
Bond apply them on sheets
559 - 569 (inclusive).

Apr. 12 Interpolated sheets 570 - 576

Also 577 - 582' (+ 575, 581,
 + 581' being ^{only} partially done)
Apr. 13 Interpolated sheets nos
 583, 584, 584', 585, 585', 587, 587'
 also corrected & finished
 sheets 533, 566, 562, 562', 581
 581'

Apr. 14 Prepared the interpolation
 for Miss Bond on sheets
 252 - 268 (inclusive),
 also 269 - 278 (inclusive.)
 Of these 255 + 272 were
 defective & only partially done

Apr. 15 ~~Inter~~ Prepared sheets 564',
 + 279 - 303 with exception
 of 280

Apr. 17 ~~Int~~ Took out quantities for
 interpolation on sheets
 303 - 325 (inclusive), 308 being
 defective, also 326 - 333 +
 half of 334

Apr. 18, Continued same on sheets
 335 - 341 also prepared quan-
 tities for Miss Bond to make the
 second interpolation on sheets
 601 - 610'

Apr. 19 Continued the second interpolation
in same way on sheets 533 - 576,
577 - 579', & 252 - 264

Apr. 20 The same on sheets 265 - 317
also 318 - 338

Apr. 21 The same on sheets 339, 340, 341
369, 370, 371, 373 - 376, 378, 379
also a lot of miscellaneous work
on defective sheets which had
been laid aside for correction.

Apr. 22 Continued the miscellaneous
work of finishing up various
odd sheets for 1878, 1877, 1874
also 281 - 289 for Miss Bond.

Apr. 24 - Prepared the second interpola-
tion for Miss Bond on sheets
nos 344 - 414

Apr. 25 The same on sheets 415 - 429
& finished up 1875.
Then I took out the n, c,
Reg. & Rrs for C 7 8 9, 10, 11
12, & wrote them in the books
& then applied Reg. in part
of C. 7

Apr. 26 Finished applying Reg. in
C 7, then took out log. cos. 5
for whole book & ^{applied} log 15, & ^{and} tan i

to Jan. 14, Jan. 17 — $14^h 53^m 49^s$
 Apr. 27 Finished apply log $15 \tan i$
 & then took R_{in} to Jan. 30
 $15^h 56^m 24^s$

Apr. 28 Finished taking out the R_{in}
 then applied it through the
 whole book. Took C 8
 & applied Reg to July 20
 $18^h 13^m 20^s$

Apr. 29 Finished applying Reg in
 C 8, then took log cos δ
 for whole book, & then ap-
 plied log $15 \tan i$ to
 July 7 & 17 $16^h 55^m 18^s$

May 1. Finished applying log $15 \tan i$
 then took out & applied
 the R_{in} for whole book thus
 finishing the declination of C 8

May 2. Applied Reg. in all of C 9
 Took out log cos δ for same.
 Applied log $15 \tan i$ as far as
 Aug. 5 - 15, $18^h 29^m 55^s$.

May 3 Finished applying log $15 \tan i$.
 Took out R_{in} for whole book;
 & applied R_{in} for whole book,
 thus finishing up that step in
 C 9 in 10 hrs. Applied Reg in
 exactly

all of C 10, except for Aug.
29, & ~~not~~ writing the degrees for
last 2 dates -

May 4 Finished up the Reg in C 10.
Took out log cos δ , applied
log 15 tan i , took out R_{in} ,
& applied R_{in} as far as
Aug. 31 - Sept 1, $19^h 6^m 15^s$,
being only $6^h 45^m$ in doing that
much.

May 5 Finished C 10 - (~~within~~ⁱⁿ a total
of $7^h 45^m$) Then in C 11
applied Reg, took log cos δ
& applied log 15 tan i as far
as Sept 20 - Oct 5, $20^h 7^m 59^s$

May 6 Finished applying log 15-tan i
& took out R_{in} & applied it
for a short distance -

May 8 Finished up C 11. Then
applied Reg in C 12, took
log cos δ , & applied log 15 tan
as far as Nov. 7-9, $23^h 18^m 34^s$

May 29 Finished applying log 15-tan i
took out R_{in} & applied R_{in} for
whole book, having been about
 11^h in doing it.

May 10 Prepared sheets for 1870
 + 1871 for the $[\Delta T + m]$ h' and
 Refl., and partially filled out
 those for 1871 after June 6.
 Then ~~applied~~ took out R_{red}
 for all of C 7, + the
 R_{rs} as far as end of June 19-21.

May 11 Took out $B + T + R$
 for all of 1870 + 1871
 + computed the R_{rf} on the
 sheets ~~from~~ as far as June
 17, 1871, being sheet No. 69.

May 12 Finished computing the R_{rf}
 for the 1870 - 71 sheets.
 Then finished preparing the
 $\Delta T + m$ on the reduction sheets
 for June 6 - 1871 to end of year.
 Then took out $\Delta T + m$ for C 7
 as far as end of June 9.

May 13 Finished taking out $(\Delta T + m)$
 for C 7, took out $n \tan \delta$ for
 whole book, + also K (diurnal
 aberr.) Then interpolated ^{to single degrees} the
 R_{rf} on the reduction sheets from
 June 6 to end of 1871.
 Then took out the R_{rf} in C 7
 as far as June 19, 15^h 50^m 48^s.

May 14⁵ - Finished Rrf, Rrs, & Rfl in C7
Then took $\Delta T + m$ in C8 & the
ntan S as far as end of July 12.

May 16 - Finished ntan S, K, Rmd, Rrs,
in C8; also Rrf as far as
end of July 11

May 17 - Finished Rrf & Rfl in C8
Applied $\Delta T + m$ in C8 & +
ntan S as far as Aug 18-19
18^h 39^m 12^s

May 18 - Finished ntan S, K, c sec S,
Rmd, Rrs & Rrf as far as Aug
18-19, 18^h 18^m 43^s

May 19 - Finished Rrf, & Rfl in C8
Then in C10 took out ($\Delta T + m$),
ntan S, ~~K~~ c sec S, K, Rmd, Rrs
& the Rrf as far as Aug 31, 19^h 12^s

May 20 - Finished Rrf & Rfl in
C10. Took out ($\Delta T + m$),
ntan S, c sec S, K, & Rmd for all
of C11.

May 22 & 23 - Took out Rrs,
Rrf, & Rfl for C11
Took out ($\Delta T + m$), ntan S,
c sec S, K, Rmd for C12
& also Rrs as far as
Nov. 7, 23^h 3^m 56^s

Later I finished the Rrs.
 May 2⁴₃ Took out Rrf + Rfl for
 all of C 12 thus finishing
 1871. Then took the Tm-T5
 for a short distance in that
 part of 1876 which is in
 C 33

May 2⁴₅ Finished Tm-T5 + checked
 it. Checked certain means
 of the Tm + of T5. Took ~~log~~^{q-z}
 + log cos δ . Applied log 15 tan
 Took out R in, + applied R.
 as far as Jan 10, 1876 - 2⁴ 41ⁱⁿ

May 26 Finished the R_{in} in C 33
 Then spent rest of day in
 straightening up ^{Miss Bond's work in} C 34 + 35
 for the other corrections.

May 27 Finished reviewing C 36; then
 prepared + filled out sheets
 containing (1st + m) h' + Rfl for
 all of 1876. Then interpolated
 the Rrf on the zone reduction
 sheets for all of 1876; + then
 copied in the constants of $n + c$
 for C 33 + C 34

May 29 — Took out $(\Delta T + m)$ ntand, ~~and~~
 c sec δ , + Rnd for all of C 33
 also $(\Delta T + m)$ for C 34 + ntand
 to May 25 - 30 13 26 57

May 30 — Checked the copying of
 the constants in C 33 + 34
 Took out ~~$\Delta T + m$~~ rest of ntand
 in 34 + c sec δ . Copied the
 Rrs for 1876 on zone sheets.

May 31 Took out Rrs, Rrf, + Rfl for
 C 33. Also Rnd, Rrs for
 C 34 + Rrf to Feb. 21. —
 $4^h 49^m 11^s$

June 1 Finished Rrf + Rfl in C 34
 Took out $(\Delta T + m)$ in C 35
 Posted in the constants "m", Rrs,
 $+ \frac{C+B}{2}$; $\frac{C+2+B.H}{2}$, + checked Reg.
 Then took ntand δ to Oct 15-16.

June 2 Finished ntand, Rnd, + Rrs in
 C 35 + the Rrf to Oct 18,
 20 51 1.

June 3 Finished Rrf + Rfl in C 35
 In C 36 took out $(\Delta T + m)$, ntand δ
 + c sec δ for all of 1876
 + Rnd to Dec. 6

June 5 Finished Rnd, Rrs, Rrf, + Rfl
 in C 36 for all of 1876

+ also took out R_{incl} , R_{rs} & R_{rf} for that part of 1877 which is in C 36.

June 6 Finished up all $\Delta T + m$, n and S + R_{rf} for 1877 in C 36; then took R_{rs} in C 37 & R_{rf} to Mar. 1, 5^h 45^m

June 7 Finished up C 37 & took out R_{in} for a little of C 40 & spent rest of time in observing comparison stars in anticipation of g the comet which I did not get.

June 8 Made out a table for reduction of broken wires to mean, & then filled in what broken ones there were from May 18, 1871 to June 10, 1874 (C 22)
I also numbered all the pages from C 1 to C 22 except in C 18

June 9 Continued numbering the pages & filling in broken wires

June 10 The same -

June 12 The same till I had finished up all but 3 or 4 books. Then took out R_{in} in C 40

to Oct 30, $23^h 5^m$
June 13 Finished R_{in} in C 40 &
applied it in C 40 to Sept 26
 $20^h 30^m 4^s$

June 14 Continued R_{in} to Oct 18
June 15 (no record) $23^h 24^m 28^s$
made

June 16 Finished applying R_{in}
in C 40; & then took out ($4T+m$)
to Oct 29, $22^h 37^m 28^s$

June 17 Finished $4T+m$ & checked
stand to Oct 6-7

June 19 Finished checking stand
& c sec δ then took out R_{and}
to Nov. 6 $22^h 50^m 51^s$

June 21 Yesterday & for the most
part of today I made out
the zone reduction sheets
from June 19, 1878 to the
end of the zone observations.
I prepared the sheets &
took out all the constants
for their computation except
 $B+T+\delta$. Then I con-
tinued taking out R_{in} in
C 40 to page 96

June 22 Took out & checked $B+T+\delta$
on sheets 634 to 701, & checked

the taking out of all the constants "G-H-log g-log h-log i - & f" on sheets 634 to 706 (the end).

Then finished R_{nd} in C 40 & took out R_{rs} to page 30

June 23 - Finished R_{rs} . Prepared the $B+T+\delta$ on sheets the zone reduction sheet computing it on some & interpolating it on all; & then took out R_{af} for Sept 24 & 25.

July 29 - Yesterday, July 28, I returned from my vacation, having quit work & left Cambridge on June 27.

I worked $2\frac{1}{2}$ hrs. at the Red. to App. pl. in C 4 Today, the 29th, I continued the same to Mar 9, $7^h 51^m 15^s$.

Aug 9. Since my return I have continued to take ^{only} the Red. to appar. place. ~~to~~ have finished up C 4, 6, 7, & that part of June 27 which is in C 8.

Sept 11 — Since the last record made here I have taken out the Red. app. pl. in C 8, 9, 10, 11, 12, 16, 17

Sept. 19 Continued R. app. pl. in C 18, 19, 20 — finishing up 1873.

Sept. 23 — Continued the same in C 27, + 28, + part of 29

Oct. 4 — Continued the same in C 29, 30, 31. Also made out the ^{2nd reduction} sheet for app. pl. for Nov. 26 1874 — computing + interpolating it. The original sheet having been lost.

Oct. 6 — Yesterday I was stopped in the taking out of app. pl. + was set at C 42, to bring it up to the same point as the others.

I found the means of taken in R. δ . + δ' but not checked in the δ . The $T_m - T_5$ was taken + its log. I checked the mean of the δ , took $\varphi - z = \delta'$, applied Regr, + took out log cos δ' to Feb. 14-16, $4^h 57^m 10^s$

Oct. 17 - Since last note, I have continued the same work in C42. I checked $Tm-TS$, computed the R_{in} , & applied it getting the S' . I also made out & checked the $AT+m$ sheets for the whole book, & took out $AT+m$ to June 9. Took out the n tan S , R_{in} & R_{rs} also to that point.

The n , c , R_{rs} , & R_{eq} were copied in the whole book, but not checked. The R_{rs} for 1878 were also read from the curves & copied in the Constant book for Meridian circle for that year.

Then, I began at June 19 & took the means of the $R.A.$ to Dec. 16, & the means of the S for the 1st dates of each gone to ~~the same~~ for Nov. 13 $0^h 29^m 53^s$. None of these means are checked!

Nov. 7 Went home sick. While I was gone Miss Saunders worked on my book. For what she did see her notes.

When I returned I made some alterations in n and S where a wrong n had been used. & finished up the n and S for the book.

Then applied the R_{in} from where Miss S. left off took out all the R_{ref} & R_{fl} & the R_{nd} & R_{ro} for dates after June 19. Then summed the $R.A.$ & its corrections, & made out slips for working of Red to App. pl. also took out all the data. Began work on the computation of these slips today. Have proceeded as far as Mar. 4

Nov. 14 I finished the computation of the ~~slips for~~ app. pl. for C 42 & summed ~~at~~ the various factors of the interpolation for a short distance.

Miss Winlock finished the summing & I copied into the book the results so found. On Sat. I did not work owing to Mr. Woodman coming

to visit me. I next checked
the taking out of the data
for app. jsl. in C 41, 35, 33,
+ part of 32

Nov. 15 Continued the same for
the rest of 32, 15, 22, +
part of 20

Nov. 16 Finished the same in C 20
+ in C 21 Then checked
the double observations in
C 5 beginning at page 28 +
the single observations from that
point to a few pages

" 17 - Finished up C 5, C 6
+ C 7 to page 42 (2nd #)

" 20 - I finished the checking
by comparison of the Red.
App. jsl. in C 7, 8, 17, + 18
+ also checked single dates
etc.

" 23 - I then took all those ships
on which I had checked taking
out the data + proceeded
to correct those places
where I had found errors.
In case of the Reduction
had been copied into the

books I changed the answer there to make it right, & in all cases changed it on the slips. I went through C 15, 20 (latter half), 21, 22, 32, 33, 35, 41, in this way.

I then resumed the comparison of the Red. on double dates & the duplication on single dates, & did C 19, & C 20 to page 52.

Then did C 32, 33, ~~4~~ + 34 to page 25.

Nov. 25 - I finished C 34, 35, 37, & in 39 to page 104.

Nov. 27 - Continued the same for rest of C 39 & in 41 to page 103.

Nov. 29 - Finished the checking of App. pl. in 41. Then checked $4T + m + n \tan \delta$ by differences in C 1, 2, 3, 4, 5, 6, & in 7 to page 38. Changed then to copying in ~~the~~ Mr. Rogers' computation of App. pl. for C 40 & carried it to page 43.

- Dec. 2 - I copied the app. pl.
 in for about $\frac{2}{3}$ of C 40.
 Then Miss Winlock took it
 & I continued the checking
 of $\Delta T + m$ & $n \tan \delta$ by dif-
 ferences in C 7, 8, 9, 10,
 11, 12, & 13 to page 104
- Dec. 7 - Finished 13, 14, 15, 21, 22, 23,
 24, 25, & in 26 to page 66,
 Finished 26, & that part of
 1874 in 27. Also in C 33
 beginning with 1876 to
 page 86
- Dec. 8 - Finished C 33, 34, 35, &
 in 36 to page 64
- Dec. 11 - Began at page 86 in
 C 41 & cor finished 41,
 & 42
- Dec 12 - Began at page 11 of
 C 40 & finished that.
 Then summed the corrections
 in δ (except Red, app. pl.) for
 C 3 & in C 6 to page 37
- Dec. 13 - Finished C 6, & in C 12
 to page 19. The Rrs are checked
 through zone for Nov. 7, 6, 9
 & the Rrf to page 23

Dec. 16 - Finished C 12, 20, & in
23 to page 37 - later - contin-
ued to p. 55

Dec. 19 - Finished 23, 25, & in
33 to page 35

Dec. 20 - Finished 33 & then
filled out the R_{in} for all those
cases where it had been omitted
on acct of broken wires as far as
the middle of C 17

Dec 23 - Continued the same
through 23. Also
took sum of δ & all its
corrections in C 1 & in
C 4 to page 61

Dec ~~27~~ 30 - The filling in of
the R_{in} , for those dates where
it had been left out on
acct of broken wires, has
been continued to C 27
page 43. In the summing
I did finished C 4, 5, 7
& 11.

Jan. 4 - ~~Finished~~ ^{Completed} the summing
through C 16 & 21.

Jan 9 - The finishing computation
of R_{in} for cases of broken wires

has been completed except in
C 35 + 37

Also summed 28.

Jan 10 - A.M. - Checked the summing
of the corrections on the S side
in C 6. Corrected cases
of $\Delta T + m$ which had been
found in error in C 1, 2, 3,
+ 4.

Jan. 18 - Finished all the $\Delta T + m$
corrections + changes in
1870 - 71, 75, 77 + a few
dates in 1876.

Jan. 22 - Took sum of all S
quantities (including $\frac{C+7+9+11}{4} - \frac{E+9}{2}$)
in C 37 + C 40

Also copied out the values
of the red. of 4 to 2 micro-
scopes as given by circle
readings in 1878 from June
9 to end of year.

Jan. 23 - Took sum of R. A + correc-
tions in C 18 + in 26 to p 56

Also checked those cases
of the $S_{in C 18}$ where the summing
by Mr. Eaton did not agree
with the previous summing.

Jan. 25 — Finished summing the R.A.
in 26, also 27, 30, & in 34 to p. 48

Jan. 29 — Finished summing R.A.
in 34, 37, & 39, & then checked
the R.A. summing & looked up
Mr. Eaton's check marks in the
S in C 22 to p. 10

Jan. 30 — Today I checked the quan-
tities on the S side (similar to Mr.
Eaton's work) in C 20, 21

Feb. 2 — The same in 23, 24, & in
30 to p. 30.

Then looked up & corrected those
cases which Mr. Rogers found needed
changing in R.A. & S in C 1
2, 3, 4, & 5 & continued checking
the final sums in S in C 30 from
p. 39 to 69 (inclusive).

Feb. 3 — Finished checking final S
in C 30. Then checked final
R.A. in 33 & final S to p.
bottom p. 47

Feb. 5 — Finished 33 & checked
R.A. in 35 & also copied off
a long list of zone stars in
order of R.A.

- Feb. 10 — Finished δ in 35 +
 $R.A.$ in 42 + δ in 42 to p. 4
- Feb. 12 — Continued same to be-
 ginning of date Feb. 19 on
 p. 20. Feb. 18 is done.
- Feb. 14 — Continued the same to end
 of page 80.
- Feb. 15 — Continued same to end of
 p 101

Mar. 8 — I have copied from all of ^{of "Polar Catalogue"} B_4, B_5, B_6
 ~~B_7~~ the $\frac{d\alpha}{dt}, \delta' + \frac{d\delta}{dt}$ into B_3 of
 Fund. stars. Observ. + Reduct."
 And that part of B_7 also which
 is in B_3

Mar. 10 — The same in B_1 1872-3 (Polar
 Catalogue to star 19 Urs. Min.
 — copied into B_5 Fund. stars.

Mar. 15 — I continued this same work
 in B_5 , + was then put on
 the 1876-7 Fundamental
 books. I prepared a new

set of $\Delta T + m$ sheets for Fundamentals
 & applied at the $\Delta T + m$ about
 $2\frac{1}{3}$ through B_2 1876-7. Then
 made out a sheet of flexure
 values for $\sin Z > .80$ for Mr.
 Eaton's work. Then prepa-
 partly prepared the $\Delta T + m$
 sheets for 1877 similar to
 those for 1876-7

Mar. 17 — I finished the sheets for
 1877 & have applied the $\Delta T + m$
 in B_1 1877 to star β Aurigæ
 $5^h 50^m 22^s$

Mar. 19 — Finished B_1 & B_2 & in
 B_3 to star ϵ Herculis $16^h 55^m 30^s$

Mar. 20 — Continued in B_3 to δ Cephei
 $22^h 24^m 32^s$

Mar. 21 — The $(\Delta T + m)$ for 1876-7 was
 taken out for B_2 1876-7 up to
 star ν Urs. Maj. $9^h 42^m 5^s$, when it
 was found that the n for
 the morning stars was sometimes
 wrong & needed to be reworked.

Miss Saunders reworked them
 & made the necessary changes, but
 the values of $(\Delta T + m)$ which I
 had already taken out I have

not changed. The one who checks will need to give especial care to this point.
 Mar. 22 - Yesterday & today I finished the remainder of B_2 1876-7, & B_1 1876-7 (wholly), & remainder of B_3 1877, & in B_3 1876-7 to

The books now done ($\Delta T + m$) are B_1 , B_2 1876-7, B_1 , B_2 , B_3 1877

Mar 24 - Finished B_3 1876-7 & in B_4 to Gr 1408 - $20^{\circ} 3' 47''$ - Oct. 30

Mar. 26 - Finished B_4 & in B_5 to p. 36 of the supplemental list, star of Arwige 5-7 57

Mar. 27 - Finished B_5 (Supplemental) 1876-7 & B_1 (Maskelyne) 1877, & in B_2 (Maskelyne) to p. 30 - Sept. 13

Mar. 28 - Finished B_2 Maskelyne

Mar. 29 - Checked in B_1 1876-7 the copying of the Reg all the book, & the $\frac{d\delta}{dt}$ to 36 H Cass. 2 26 11

Mar. 30 - Finished checking the $\frac{d\delta}{dt}$ in B_1 1876-7. Checked

the Reg. in B_2 + the $\frac{d\delta}{dt}$ to
 λ Urs. Min. h. 19 49 18

Mar. 31 - Checked the rest of $\frac{d\delta}{dt}$
 in B_2 + in B_3 to β Herculis
 16 24 51. Also the Reg.
 in B_3 to $\alpha + \alpha^2$ Librae 14 43 58

Apr. 2 - Finished B_3 + Reg. in B_4
 to ϵ Delphini 20 27 14 +
 the $\frac{d\delta}{dt}$ to γ Aquilae 19 40 19

Apr. 3 - Finished B_4 in the $\frac{d\delta}{dt}$ in
 B_5 to p 18, + the Reg. to
 p 12.

Apr. 4 - Finished B_5 + in B_1 , 1877
 the $\frac{d\delta}{dt}$ to ϵ Orionis 5 29 52
 + Reg. to 27 Eridani 3 41 28

Apr. 6 - Finished β B_1 + B_2
 to π Bootis 14 34 + the
 $\frac{d\delta}{dt}$ all through.

Apr. 7 - Finished all of B_2 , B_3 , 1877
 + B_1 , 1877 (Maskelyne).

Apr. 10 - Finished all the δ checking
 in '76 + '77. Then checked
 the $\Delta T + m$ in B_1 , 1876 + the
 $\Delta T + m$ to δ Persei 3 34 2

B₁ 1876. Apr. 11 - Finished checking $n \tan \delta$ and $c \sec \delta$ and $\frac{d\alpha}{dt}$ in B₁ 1876-7

Mr. Eaton commenced adding the sum of the δ Red's to the app. δ before it had been checked. When it is checked, look out for changes in the final quantity.

B₂ 1876 Apr. 12 - Checked the $\Delta T + m$ in $\Delta T + m + n \tan \delta$ B₂ 1876-7, and $n \tan \delta$ to θ Hy. checked. drce 9 7 52.

B₂ 1876 Apr. 13 - Finished B₂ 1876-7 and in B₃ checked the $\frac{d\alpha}{dt}$ to β Li. $c \sec \delta$ and $\frac{d\alpha}{dt}$ checked. brce 15 10 17

B₃ 1876 Apr. 14 - Finished the $\frac{d\alpha}{dt}$ in B₃ and the $\Delta T + m$ to ϵ Herculis. $\frac{d\alpha}{dt}$ checked. 16 55 30.

B₃ 1876 Apr. 16 - Finished $\Delta T + m$, $n \tan \delta$ in B₃ and the $c \sec \delta$ to α Bootis.

B₃ 1876 Apr. 17 - Finished $c \sec \delta$ in B₃ and α reductions in B₄ checked $\Delta T + m$ to α Piscis checked. Anst. 22 50 44

B₄ 1876 Apr. 18 - Finished $\Delta T + m$ in B₄ and $n \tan \delta + c \sec \delta + \frac{d\alpha}{dt}$ to ϵ Cygni. 1926

B₄ 1876 Apr. 19 - Finished the $\frac{d\alpha}{dt}$ in B₄ and the same in B₅ to β 37. α reductions checked.

B₅ 1876 Apr. 20 - Finished $\frac{d\alpha}{dt}$, $n \tan \delta$, $c \sec \delta$, and $\Delta T + m$ in B₅ 1876, and the $\Delta T + m$ in B₁ 1877 to ν Arietis, 2 31 43. α reductions all checked.

Apr. 21 - Finished $\Delta T + m$ in B,
1877, and $n(\tan \delta)$ to η Urs. Min L.C.
4 21 11

Apr. 24 - Continued $n \tan \delta$ to
 δ Cancri, 8 37 35.

Apr. 25 - Finished $n \tan \delta$, & c sec δ
in B, 1877, & the $\frac{d\alpha}{dt}$ to δ K Cygni
L.C. 28 13 4.

In all of the books ^{in which} I have
checked these reductions, in both
 α & δ , I have checked non-
fundamentals, as well as
fundamentals.

H.B. In all
these books
non-fundamen-
tals as well
as fundamentals
have been
checked.

B₁¹⁸⁷⁷ checked
& reductions.

Apr. 26 - Finished B, 1877 and
the $\frac{d\alpha}{dt}$ in B, Maskelyne, &
the $\Delta T + m$ to p. 8.

Apr. 27 - Finished $n \tan \delta$, & c sec δ
in B, Maskelyne, & the $\Delta T + m$ to
p. 20. Also in B₂ Maskelyne
checked the $\frac{d\alpha}{dt}$.

B₁ Maskelyne
& reductions
checked. Apr. 30 - All the α reductions
in B₁ Maskelyne are checked.
Also in B₂ Maskelyne checked
B₂ Maskelyne the $\Delta T + m$, $n \tan \delta$, & c sec δ .
& red's checked.

June 7 - Since last entry I
have been wholly occupied with
various interpolations on the sheets

for the precession in R. A.
 Today I took 54 sheets, scattered
 through all hours of R. A., & all
 the 5 degrees.

The quantity is computed ~~to~~
 for every 4 minutes, & is to be
 interpolated to ^{single} minutes

July 30 — The above interpolations
 were continued till all the sheets
 were finished, being made out
 to every 10^3 in R. A. & every 5'
 in δ . My work in interpo-
 lating was very much scatter-
 ed, especially towards the
 close where I filled out
 such of the sheets as were
 left. ~~Then~~ In the mean-
 while I had done a little of
 the taking out of the ~~pre~~
 quantity from the sheets for
 the precession for the mean
 date. This also was very scat-
 tering as I filled in odd hours
 which had been left by his
 samplers. Finally I took
~~No. 4~~ No. 4, commenced at 19^h 0^m
 & went to 21^h 29^m complete

and a few stars in advance of
that but not complete. Then
took No. 3 as Miss Bond wanted
No. 4, & beginning at 18^h I went
to 18 12.

This A.M. also answered a letter
from Prof. C. H. McLeod sending
him the apparent places of 48
stars.

and then took back with her the
sheet 36 to 135, inclusive.
Aug. 2 - Recd. from Miss Bond
sheet to ~~107~~ 108

by Miss Bond.
 Mar. 14 - The R_m in $B 2 + B 4$ was taken out by Miss Bond.
 Mar. 18 - The same in $B 1, 2, 3$ & were taken out
 by Miss Bond.
 Mar. 31 - The same of the ~~the~~ R_m , R_m , & R_m constant were
 taken by Miss Bond.
 B 1 was done manually & the
 mistake (the mistake of carelessness)
 numbered one in 227
 B 3 was done by written work &
 the modulus was one in 239
 Apr. 14 - In all the books the
 sums of R_m , R_m , R_m , & R_m constant
 were applied to & by Miss Bond
 also the means were taken by
 her. The also. R_m in $B 1$ from
 5 18 23 to end. in $B 2$ to 8 50 38,
 & in $B 3$ to 3 11 5, 11 32 were
 taken out by Miss Bond
 July 9 - Miss Bond returned from her
 vacation bringing back the zone redue-
 tion sheet 187 to 230, inclusive:

Oct. 29. B 3, 1876-7 Checked by
Miss Winkler from beginning to end.

Nov. 17. Mr. Rogers examined the
checked constants 15 log cos δ μ μ
+ $\frac{1}{2}$ $\tan - \tan$ in 1876.

Dec. 10. While I was on a
visit home Miss Winkler checked
[log $(\tan - \tan) + \log 15 \cos \delta \mu$] (her own
work) in B 1 2 3 + 5 1876-7.

Jan. 3 - The log - [log $(\tan - \tan) + \log 15 \cos \delta \mu$]
in B 2 + 3 of 1876-7 was checked

by Miss Winkler.
The quantity was then added to
the $\delta \mu$ B 3 by Miss Winkler, +
in B 2 by Miss Bond.

This reduction was then applied
to the horizontal wire in B 2 by
Miss Bond + in B 3 by Miss Winkler.
The Reg. + $\mu + \log \delta \mu$ 2 was
checked by Miss Bond as through
all of 1876 & 77

Mar. 9 - The refraction (left) in
B 2 + B 4, 1876-7 was taken out

1880phae.proj.1737B

$\frac{1}{2} = 0.5$ "
 $\frac{1}{3} = 0.333$ "
 $\frac{1}{4} = 0.25$ "

$\frac{1}{5} = 0.2$ "
 ~~$\frac{1}{6} = 0.166$ "~~
 $\frac{1}{7} = 0.142857$ "
 $\frac{1}{8} = 0.125$ "
 $\frac{1}{9} = 0.111111$ "
 $\frac{1}{10} = 0.1$ "

Sept 18 - 0.00 15.25

~~200~~ 19 - 3.25

" 20 - 4.00

" 21 - 3.25

" 22 - 0.75

" 23 - 1.00

" 24 - 0.00 12.25

" 25 - 0.00

" 26 - 5.00

" 27 - 1.50

" 28 = 0.50

" 29 = 2.00

" 30 = 0.50

Oct 1 = 4.75 14.25

Oct 2 = 0.00

" 3 = 3.00

" 4 = 2.50

" 5 = 3.00

" 6 = 6.25

" 7 = 3.50 18.25

8 = 0.00

" 9 = 3.50

" 9 = 0.00

" 10 = 3.50

" 11 = 4.00

" 12 = 1.00

" 12 = 1.00

" 12 = 1.00

" 12 = 1.00

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17375