

(1) Number of pages 22(2) Date of repair 7-12-1862

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. <u>2374</u>	Press
<u>387-388</u>	<u>Mis.</u>
Dated <u>16-8-</u>	<u>1868.</u>

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
16th August, 1865.

No. 387. Read the following letter from Captain J. MULLINS, R. E., Consulting Engineer for Irrigation and Canal Company, to Colonel C. A. ORR, R. E., Secretary to Government, Department of Public Works, dated Madras, 26th July 1865, No. 59:—

SIR, 1. I have the honor to submit, for the consideration of Government, a letter No. 186 of the 21st instant, from the Agent and Manager Madras Irrigation and Canal Company, communicating extracts from Mr. Secretary Westwood's letter No. 58, of the 10th ultimo, conveying the sanction of the Board of Directors to the following increases of salary and allowances of members of the Engineering Staff:—

	<i>Salaries.</i>
The allowances of Mr. Dodson remain unchanged	Mr. Dodson, from Rs. 600 to Rs. 800.
as also those of Mr. Beaumont, but Mr. C. Henslowe and Mr. Knorpp will each draw Rupees 150 instead of Rupees 120.	„ C. Henslowe, „ 350 to „ 550. „ Beaumont, „ 300 to „ 350. „ Knorpp, „ 300 to „ 350.

2. Mr. Henslowe at the same time forwards a statement showing proposed reductions of Establishment, whereby, inclusive of the increased salaries sanctioned by the Board, the scale will be reduced from the sum at present sanctioned, Rupees 41,909 per month, to Rupees 32,076. The Agent gives the details for all the Establishments, except those of the Agency and of the Bellary Division, and an abstract is appended thereto. Another abstract showing the charges under the heads “Officers,” “Subordinates,” and “Establishments” for all Offices, including the Agency and the Bellary Division, and showing also the average cost, taken from the pay abstracts of these Offices for the six months ending 31st March last, has also been prepared with a view to show the direction of the intended reductions.

3. The Government will be glad to learn that, concurrently with a reduction in expenditure on works, a prompt examination of the existing Establishments has been made with a view to the decrease of their cost. It will be noticed that the scale prepared by the Agent has not yet been approved by the Board, and it is probable that some modifications will be found necessary, and that when existing engagements with members of the staff terminate, other changes will be proposed. As the details also of the reductions are thus in a great measure dependent upon arrangements which may prevent their taking the exact shape, which might otherwise be thought most expedient, I will confine the few observations to be made to special points, which will be considered perhaps to deserve attention.

4. The average expenditure of the year 1864-65 was, in round numbers, 2½ lacs a month; that of 1865-66, judging from the drafts passed for expenditure during the

	RS.
* May	2,03,209
June	1,22,506
July	1,10,931
	4,36,646
Average	1,45,549

first quarter,* will probably be about 1½ lacs. The scale of Establishment sanctioned as already mentioned, is Rupees 41,909, and the reduced scale is Rupees 32,076, but it will be seen from the separate abstract that the actual monthly cost of Establishment, on the average of the six months ending 31st March last, was Rupees 32,773, and that therefore in fact with the larger outlay the actual Establish-

ment was not more costly than the scale of the proposed reduced Establishment. Mr. Henslowe intimates, indeed, (paragraph 4) that "the full amount set down in the schedule will not be given in some cases," but still it will be necessary to use some caution lest the reductions prove more nominal than real. It must be anticipated that the proportion of cost of Establishments to the reduced expenditure will be less favorable than that which, with the exception of one or two Divisions, has for some time past been noticed as very moderate, in submitting the quarterly Progress Reports. The exact proportion, taking 2½ and 1½ lacs, as the full and reduced expenditure respectively would, for the latter, be rather under 20,000 Rupees, against the Rupees 32,773 for the former, and perhaps, therefore, it will be found practicable not to allow this correct proportion to be exceeded by more than two or three thousand Rupees.

* This refers as before to the average of the six months ending 31st March, and is probably sufficiently accurate for the argument throughout.

Salary	...	Rupees 600	750
Allowances	...	150	

shops, and between these latter and the Central Stores a charge of equal amount has been divided. The reduction in Office Establishment is very small, but probably it will be some time before the reduced expenditure will much affect the work in the Chief Engineer's Office.

6. The sanctioned scale for the Central Workshop is Rupees 1,221, the average cost of Establishment Rupees 687, and the proposed reduced scale Rupees 957. The Establishment was remodelled a short time ago, and Rupees 690 were the monthly cost of that arrangement. The difference between this latter sum and the proposed reduced scale,† is principally due to the allotment of an Executive Engineer at

† Rupees 957.

Rupees 375 to the Establishment. The value of the out-turn of work was for 1862-63 Rupees 66,000, for 1863-64 Rupees 1,05,000, and for the first nine months of 1864-65 Rupees 69,000, equivalent to Rupees 80,000 for the whole year. Supposing the future out-turn to be Rupees 50,000, the proposed reduced scale would provide an Establishment costing 24 per cent. on that value. This is higher than it should be, and it seems to me advisable to reduce, as far as may be convenient, the operations at these Workshops, seeing that a great deal of the work done could be more economically executed at the Divisional Workshops, on the works, or at Madras.

7. The sanctioned scale for the Central Stores is Rupees 310, the actual average Rupees 305, the proposed scale Rupees 650. An Executive Engineer's salary and allowances Rupees 375 account for the difference, and my opinion is that, unless the arrangement be a mere matter of distribution of charge, these stores should be managed at a cost certainly not exceeding that of the past year.

8. In the Order of Government No. 2,847 of the 3rd October 1864, the appointment of an Inspecting Engineer was approved, and one of the Executive Engineers, the present Provincial Chief Engineer, was nominated to the appointment, which he held only for a few months. It is now proposed to substitute an Assistant to the Chief Engineer for the Inspecting Engineership, whereby a

5. The present scale for the Central Office is Rupees 5,454, and the actual* average cost Rupees 4,983, the reduced scale is Rupees 3,917. The chief part of the reduction consists in the omission of the salary and allowances of the Executive Engineer who has had charge of the Work-

reduction of scale to the extent of nearly Rupees 900 would be effected. I do not know whether the Assistant with a salary of Rupees 300 and allowances Rupees 120, is intended to perform any of the duties allotted to the Inspecting Engineer, who was an Officer of the highest class. If so, it appears to me that the arrangement cannot be expected to work well, as an Officer of the rank indicated by the pay could exert no influence over the proceedings of the Divisional Executive Engineers, and his reports would lead to much discussion. On the other hand, if his duties be indicated by the title of the office, the arrangement seems hardly necessary at a time when reduction of Establishments is being carried out.

9. The Bowanassy Division has been sub-divided, the 5th and 6th Sections being left in it, and the 7th constituted anew, the Nundial Division. Taken together the proposed scale of these Divisions exceeds by a few Rupees that of the former Bowanassy Division. Looking to the work that has to be done, the Establishment of the reduced Bowanassy Division seems to me somewhat deficient in Surveyors, while the Engineering staff will probably be large compared with the expenditure.

10. Since the departure from the Company's service of the late Executive Engineer of the Pennair Division, the Executive Engineer of the Nellore Division has had the charge of both. The new scale of Establishment shows a reduction of nearly one-third, but compared with the average actual cost the difference is reduced to less than the amount of the Executive Engineership which has not been filled up. An Executive Engineer, three Assistant Engineers, and four Sub-Assistant Engineers is, I think, a large staff, seeing that there is only one work, the Somaiswaram Anicut in progress, on which, moreover, the expenditure is almost nominal; that the surveys for the Cuddapah portion of the line are almost completed, and that a large portion of the preliminary surveys in Nellore, or of that part of the investigation which requires information to be obtained in various directions, must have been finished. This part of the new scheme requires, therefore, it would seem, the Agent's early attention, lest the cost of the investigations should prove out of proportion to the projects on account of which they have been made.

11. The Bellary Division Establishment has been inserted in the detached abstract in accordance with the present scale, the average actual cost Rupees 3,426 is but little less than the sanctioned scale Rupees 3,615.

12. From the detached abstract it will be seen that the proposed reduction in the scale of Office Establishments is but very small, the present scale being Rupees 10,593 and the proposed Rupees 9,586, and indeed, looking to the fact that the Dhoor Office has not been entertained, and that the Parnapully Tank Survey has been discontinued, the revised scale of the other Offices is in excess of that hitherto in force. Perhaps what is possible may not coincide with what may be desired in the way of reduction under this head, but nevertheless some of the increases in the Agent's detailed list appear hardly advisable, without a more extensive amalgamation of the separate appointments.

13. Of the Officers for whom increases of salary have been sanctioned by the Board, Mr. Knorpp is the only one whose increased pay is in excess of the scale already sanctioned by Government, and I request authority therefore in his case to pass the charges. The first three of the Board's sanctions are confirmations of arrangements made by the Chief Engineer and Agent on the occurrence of vacancies.

Statement showing proposed reductions of establishments
whereby

ABSTRACT.

Proceedings of the Madras Government, Public Works Department,
16th August 1865.

AGENCY.	CENTRAL OFFICE.		CENTRAL WORK-SHOP.		CENTRAL STORE.		IRRIGATION.		ACTING TO THE CHIEF ENGINEER, LATE INSPECTING ENGINEER.		HINDRY AND SOONKASALA.		SOONKASALA ANICUT SLUICE.		NAGATORE DIVISION.	
	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.
Officers ...	1,781	1,781	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Subordinates ...	145	145	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Establishment...	2,054	2,054	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total...	3,980	3,980	...	...	...	...	...	...	...	...	...	...	...	...	...	...

BOWANASSY DIVISION.	NUNDIAL DIVISION.		KOONDAR DIVISION.		PENNAR AND NELLORE DIVISION.		DISTRIBUTION.		BELLARY DIVISION.		DOOHOR DIVISION.		PARNAPULLEY TANK SURVEY.		TOTAL.	
	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.
Officers ...	1,550	1,940	470	520	1,170	1,120	...	...	2,410	2,410	...	...	...	...	...	...
Subordinates ...	855	410	400	95	775	520	...	...	640	640	...	...	...	...	...	...
Establishment...	754	857	51	309	546	601	...	...	565	565	...	...	...	...	...	...
Total...	3,159	3,207	921	924	2,491	2,241	720	934	3,615	3,615	2,311	...	1,559	...	41,909	32,076

Proceedings of the Madras Government, Public Works Department,
16th August 1865.

	OFFICERS.		SUBORDINATES.		ESTABLISHMENT.		TOTAL.		Remarks.
	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	Present.	Pro-posed.	
Agency ...	...	...	...	...	...	...	...	...	* Estimated, the pay abstracts from January to March 1865, not having been as yet passed.
Central Office ...	...	...	...	...	...	...	...	...	
Central Workshop ...	...	...	...	...	...	...	...	...	
Central Stores ...	...	...	...	...	...	...	...	...	
Irrigation ...	...	...	...	...	...	...	...	...	
Acting to the Chief Engineer, late Inspecting Engineer.	...	...	...	...	...	...	...	...	
Hindry and Soonkasala	...	...	...	...	...	...	...	...	
Soonkasala Anicut Sluice	...	...	...	...	...	...	...	...	
Nagatote Division	...	...	...	...	...	...	...	...	
Bowanassey do.	...	...	...	...	...	...	...	...	
Nundial do.	...	...	...	...	...	...	...	...	
Kundaur do.	...	...	...	...	...	...	...	...	
Pennar and Nellore do.	...	...	...	...	...	...	...	...	
Distribution ...	...	...	...	...	...	...	...	...	
Bellary Division	...	...	...	...	...	...	...	...	
Doohoor do.	...	...	...	...	...	...	...	...	
Parnapully Tank Survey	...	...	...	...	...	...	...	...	
Total ...	20,426	16,281	10,890	6,209	10,593	9,586	41,909	32,076	

(Signed) J. MULLINS, Captain, R. E.,
Cons. Engr. for I. and C. Co. party.

MADRAS,
26th July 1865.

statements showing proposed reductions of establishment, whereby

Proceedings of the Madras Government, Public Works Department,
16th August 1865.

No. 388.

ORDER THEREON, 16th August 1865, No. 2,374.

ESTABLISHMENT, No. 45.

1. With this letter the Consulting Engineer submits one from the Manager of the Irrigation and Canal Company, notifying certain promotions in the Engineering Staff of the Company, which have received the sanction of the Board of Directors. Mr. Henslowe also lays before Government a Statement of certain reductions which are now being made in the Establishments entertained by the Company, and which, when complete, will effect a saving estimated at Rupees 10,906 per mensem.

2. The proposed promotions and reductions are approved of. The Government observe that the cost of the Company's Establishment, when these modifications are completed, will fall considerably within the limit already sanctioned.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Consulting Engineer for Irrigation and Canal Company.
" " Manager for do. do.

Exd. S. T. Augustin.

Consulting Engineer's Office,
Irrigation & Canal Company,

Madras, 26 July 1865.
despatched 25th do.

N^o 59

Captain J. Mulline, R.E.
Commanding for S.E. Co.

The Secretary to Government
Department of Pub. Works.

I have the honor to submit for the consideration of Government a letter N^o 186 of 21st instant from the Agent and Manager Madras Irrigation and Canal Company, communicating extracts from Mr. Secretary Westwood's letter N^o 58 of the 10th ultimo, conveying the sanction of the Board of Directors to the following increases of salary and allowances of members of the Engineering Staff.

The allowances of Mr. Bodson remain unchanged, as also those of Mr. Beaumont but Mr. C. Henslowe & Mr. Knorff will each draw Rs. 150 instead of Rs. 120.

Mr. Bodson from Rupees 600 to Rs. 800
Mr. C. Henslowe from 350 to 550
Mr. Beaumont from 300 to 350
Mr. Knorff from 300 to 350

2. Mr. Henslowe at the same time forwards a statement shewing proposed reductions of establishment, whereby

whereby, inclusive of the increased salaries sanctioned by the Board, the scale will be reduced from the sum at present sanctioned, Rupees 41,909 per month, to Rupees 32,076. The Agent gives the details for all the establishments, except those of the Agency and of the Bellary Division, and an abstract is appended thereto. Another abstract showing the charges under the heads "Officers," "Subordinates," and "Establishments" for all offices, including the Agency and the Bellary Division, and showing also the average cost, taken from the pay abstracts of these offices for the six months ending 31st March last, has also been prepared with a view to show the direction of the intended reduction.

3. The Government will be glad to learn that concurrently with a reduction in expenditure on works, a prompt examination of the existing establishments has been made with a view to the decrease of their cost. It will be noticed that the scale prepared by the Agent has not yet been approved by the Board, and it is probable that some modifications will be found necessary, and that when existing suggestions with members of the Staff terminate, other changes will be proposed. As the details also of the reductions are thus in a great measure dependent upon arrangements which may prevent their taking

May—203,209
June—122,506
July—110,931
436,646
Average 145,549

the exact shape, which might otherwise be thought most expedient, I will confine the few observations to be made to special points which will be considered perhaps to deserve attention.

4. The average expenditure of the year 1865/6 was in round numbers 2 1/6 lacs a month, that of 1865/66, judging from the drafts passed for expenditure during the first quarter, will probably be about 1 1/4 lacs. The scale of establishment sanctioned as already mentioned, is Rupees 41,909 and the reduced scale is Rupees 32,076; but it will be seen from the separate sheet that the actual monthly cost of establishment, on the average of the six months ending 31st March last, was Rupees 32,773, and that therefore in fact with the larger outlay the actual establishment was not more costly than the scale of the proposed reduced establishment. Mr. Stenhouse intimates indeed (para. 4) that the full amount set down in the schedule will not be given "in some cases," but still it will be necessary to use some caution lest the reductions prove more nominal than real. It must be anticipated that the proportion of cost of establishments to the reduced expenditure will be less favorable than that which, with the exception of one or two

divisions

Divisions, has for some time past been noticed as very moderate; in submitting the quarterly Progress Reports. The exact proportion taking $\frac{2}{3}$ and $\frac{1}{4}$ less, as the full and reduced expenditures respectively would, for the latter be rather under 20000 Rupees, against the Rupees 32,773 for the former, and perhaps therefore it will be found practicable not to allow this correct proportion to be exceeded by more than two or three thousand Rupees.

5. The present scale for the Central Office is Rupees 5454, and the actual average cost Rupees 4983; the reduced scale is Rupees 3917. The chief part of the reduction consists in the omission of the salary and allowances of the Executive Engineer who has had charge of the workshops, and between these latter and the Central Stores a charge of equal amount has been divided. The reduction in office establishment is very small, but probably it will be some time before the reduced expenditure will much affect the work in the Chief Engineer's Office.

6. The sanctioned scale for the Central workshop is Rupees 1221 the average cost of establishment Rupees 687, and the proposed reduced scale Rupees 957. The establishment was remodelled a short time ago and Rupees 690 were the monthly cost of that arrangement. The difference between

This refers as before to the average of the 6 months ending 31 March 7. It is probably sufficiently accurate for the argument throughout.

Salary 600
allowances 150
750.

R. 957

between this latter sum and the proposed reduced scale, is principally due to the allotment of an Executive Engineer at Rupees 375 to the establishment. The value of the outturn of work was for 1862/63 - Rupees 66,000, for 1863/64, Rupees 105,000, and for the first 9 months of 1864/65 Rupees 60,000 equivalent to Rupees 80,000 for the whole year. - Supposing the future outturn to be 50,000, the proposed reduced scale would provide an establishment costing 24 per cent on that value. This is higher than it should be, and it seems to me advisable to reduce, as far as may be convenient, the operations at these workshops, seeing that a great deal of the work done could be economically executed at the Divisional Workshops, on the works, or at Madras.

7. The sanctioned scale for the Central Stores is Rupees 310, the actual average Rupees 305, the proposed scale Rupees 650. An Executive Engineer's salary and allowances, Rupees 375 account for the difference, and my opinion is that, unless the arrangement be a mere matter of distribution of charge, these stores should be managed at a cost certainly not exceeding that of the past year.

8. In the Order of Government N^o 2847 of the 3rd October 1864 the appointment of an Inspecting Engineer was approved, and one of the Executive Engineer's

Engineers, the present Provincial Chief Engineer, was nominated to the appointment, which he held only for a few months. It is now proposed to substitute an Assistant to the Chief Engineer for the Inspecting Engineership, whereby a reduction of scale to the extent of nearly Rupees 200 would be effected. I do not know whether the Assistant with a salary of Rupees 300 and allowances Rupees 120 is intended to perform any of the duties allotted to the Inspecting Engineer, who was an officer of the highest class. - If so, it appears to me that the arrangement cannot be expected to work well, as an officer of the rank indicated by the pay could exert no influence over the proceedings of the Divisional Executive Engineers, and his reports would lead to much discussion. - On the other hand if his duties be indicated by the title of the office, the arrangement seems hardly necessary at a time when reduction of establishments is being carried out.

9. The Bowanassy Division has been subdivided, the 5 and 6 Sections being left in it and the 7th constituted anew - the Mundial Division. Taken together the proposed scale of these divisions exceeds by a few Rupees that of the former Bowanassy Division. Looking to the work that has to be done the re-establishment of the reduced

Bowanassy

131
Bowanassy Division seems to me somewhat deficient in Surveyors, while the Engineering staff will probably be large compared with the expenditure.

10. Since the departure from the Company's service of the late Executive Engineer of the Ponnai Division, the Executive Engineer of the Koller Division has had the charge of both. The new scale of establishment shows a reduction of nearly 50%, but compared with the average actual cost the difference is reduced to less than the amount of the Executive Engineership, which has not been filled up. - An Executive Engineer, Assistant Engineers, and 4 Sub-assistant En-

gineers is, I think, a large staff, seeing that there is only one work - the Somaswaram Canal in progress, on which moreover the expenditure is almost nominal; that the surveys for the Cuddalore portion of the line are almost completed, and that a large portion of the preliminary survey in Koller, one of that part of the investigation which requires information to be obtained in various directions, must have been finished. This part of the new scheme requires therefore, it would seem, the Agents' early attention, lest the cost of the investigations should prove out of proportion to the projects on account of which they have been made.

11. The Bellary Division Establishment has been inserted in the detached abstract in accordance with the present scale, the average actual cost Rupees 3,426 is but little less than the sanctioned scale Rupees 3,615.

12. From the detached abstract it will be seen that the proposed reduction in the scale of office establishments is but very small, the present scale being Rupees 10,593 and the proposed Rupees 9,586, and indeed looking to the fact that the Whoom office has not been entertained and that the Parnapully Land Survey has been discontinued, the revised scale of the other offices is in excess of that hitherto in force. - Perhaps what is possible may not coincide with what may be desired in the way of reduction under this head, but nevertheless some of the increases in the Agents' detailed list appear hardly advisable, without a more extensive amalgamation of the separate appointments.

13. Of the officers for whom increases of salary have been sanctioned by the Board, Mr. Knorrip is the only one whose increased pay is, in excess of the scale already sanctioned by Government, and I request authority therefore in his case to pay the charges. The first three of the Board's sanctions are confirmations of arrangements made by the Chief Engineer and agreed on the occurrence

I have the honor to be,
Sir,
Your most obedient servant,
Wm. Lumsden Captain, R.E.
Chief Engineer &c. &c.

Proceedings of the Madras Government
When date the 16th August 1865
Read the following

From the Consty Engrs I & C Co.
Submits for the consideration of
Govt a letter No 186 of the 21st
Instant from the Agent communi-
cating Extracts from Mr Secretary
Westwood's letter 12th 58 of the 10th
Attaining conveying the sanction of
the Board of Directors to the
within mentioned increases of Sal-
ary & allowances of Members of
the Engineering Staff.

H.E. 26th July 1865 No 59.

With this letter the
Consulting Engineer submits
one from the Manager of the
Irrigation and Canal Com-
pany; notifying certain pro-
positions in the Engineering
Staff of the Company, which
have received the sanction
of the Board of Directors.
Mr Arncliffe also lays
before Government a
statement of certain reductions
which

WON

3rd Engrs/8400
2847

Copy to Mr. D. S. 1865. No 57.

22nd 1865 29th

For Govt for Engrs

11th 1865 284 B.

The Engrs to Govt

Date 26th July 1865

Enc. 3.

Submits for the con-
sideration of Govt a letter No 186
of the 21st Instant from the Agent
communicating Extracts from
Mr Secretary Westwood's letter 12th
of the 10th 58 conveying the
sanction of the Board of Directors
to the within mentioned increases
of salary & allowances of members
of the Engineering Staff.

Original 1865. No 115

No 387

which are now being made
in the Establishments enter-
tained by the Company,
and which, when complete,
will effect a saving estimated
at \$10,906 per annum.

The proposed pro-
motions and reductions are
approved of. The Govern-
ment observe that the
cost of the Company's
Establishment, when
these modifications are
completed, will fall con-
siderably within the limits
already sanctioned.

WJ

To The Consulting Engineer
Irrigation & Canal Company With 3 Enclos: ✓
" Manager Do - ✓
Sept 17th August.

Copy in a Letter to England
of 12: Sept. 1865. K. 57.

of 1865 Dep't
Pro. of Gov't for
Aug't.

No. 2874
Pro. of the Algovt.
of 16 Aug't 1865.

CA 3904/65

1
1/2
1/4
1/8
1/16
1/32
1/64
1/128
1/256
1/512
1/1024
1/2048
1/4096
1/8192
1/16384
1/32768
1/65536
1/131072
1/262144
1/524288
1/1048576
1/2097152
1/4194304
1/8388608
1/16777216
1/33554432
1/67108864
1/134217728
1/268435456
1/536870912
1/1073741824
1/2147483648
1/4294967296
1/8589934592
1/17179869184
1/34359738368
1/68719476736
1/137438953472
1/274877906944
1/549755813888
1/1099511627776
1/2199023255552
1/4398046511104
1/8796093022208
1/17592186044416
1/35184372088832
1/70368744177664
1/140737488355328
1/281474976710656
1/562949953421312
1/1125899906842624
1/2251799813685248
1/4503599627370496
1/9007199254740992
1/18014398509481984
1/36028797018963968
1/72057594037927936
1/144115188075855872
1/288230376151711744
1/576460752303423488
1/1152921504606846976
1/2305843009213693952
1/4611686018427387904
1/9223372036854775808
1/18446744073709551616
1/36893488147419103232
1/73786976294838206464
1/147573952589676412928
1/295147905179352825856
1/590295810358705651712
1/1180591620717411303424
1/2361183241434822606848
1/4722366482869645213696
1/9444732965739290427392
1/18889465931478580854784
1/37778931862957161709568
1/75557863725914323419136
1/151115727451828646838272
1/302231454903657293676544
1/604462909807314587353088
1/1208925819614629174706176
1/2417851639229258349412352
1/4835703278458516698824704
1/9671406556917033397649408
1/19342813113834066795298816
1/38685626227668133590597632
1/77371252455336267181195264
1/154742504910672534362390528
1/309485009821345068724781056
1/618970019642690137449562112
1/1237940039285380274899124224
1/2475880078570760549798248448
1/4951760157141521099596496896
1/9903520314283042199192993792
1/19807040628566084398385987584
1/39614081257132168796771975168
1/79228162514264337593543950336
1/158456325028528675187087900672
1/316912650057057350374175801344
1/633825300114114700748351602688
1/1267650600228229401496703205376
1/2535301200456458802993406410752
1/5070602400912917605986812821504
1/10141204801825835211973625643008
1/20282409603651670423947251286016
1/40564819207303340847894502572032
1/81129638414606681695789005144064
1/162259276829213363391578010288128
1/324518553658426726783156020576256
1/649037107316853453566312041152512
1/1298074214633706907132624082305024
1/2596148429267413814265248164610048
1/5192296858534827628530496329220096
1/10384593717069655257060992658440192
1/20769187434139310514121985316880384
1/41538374868278621028243970633760768
1/83076749736557242056487941267521536
1/166153499473114484112975882535043072
1/332306998946228968225951765070086144
1/664613997892457936451903530140172288
1/1329227995784915872903807060280344576
1/2658455991569831745807614120560689152
1/5316911983139663491615228241121378304
1/10633823966279326983230456482242756608
1/21267647932558653966460912964485513216
1/42535295865117307932921825928971026432
1/85070591730234615865843651857942052864
1/170141183460469231731687303715884105728
1/340282366920938463463374607431768211456
1/680564733841876926926749214863536422912
1/1361129467683753853853498429727072845824
1/2722258935367507707706996859454145691648
1/5444517870735015415413993718908291383296
1/10889035741470030830827987437816582766592
1/21778071482940061661655974875633165533184
1/43556142965880123323311949751266331066368
1/87112285931760246646623899502532662132736
1/174224571863520493293247799005065324265472
1/348449143727040986586495598010130648530944
1/696898287454081973172991196020261297061888
1/1393796574908163946345982392040522594123776
1/2787593149816327892691964784081045188247552
1/5575186299632655785383929568162090376495104
1/11150372599265311570767859136324180752990208
1/22300745198530623141535718272648361505980416
1/44601490397061246283071436545296723011960832
1/89202980794122492566142873090593446023921664
1/178405961588244985132285746181186892047843328
1/356811923176489970264571492362373784095686656
1/713623846352979940529142984724747568191373312
1/1427247692705959881058285969449495136382746624
1/2854495385411919762116571938898990272765493248
1/5708990770823839524233143877797980545530986496
1/11417981541647679048466287755595961091061972992
1/22835963083295358096932575511191922182123945984
1/45671926166590716193865151022383844364247891968
1/91343852333181432387730302044767688728495783936
1/182687704666362864775460604089535377456991567872
1/365375409332725729550921208179070754913983135744
1/730750818665451459101842416358141509827966271488
1/1461501637330902918203684832716283019655932542976
1/2923003274661805836407369665432566039311865085952
1/5846006549323611672814739330865132078623730171904
1/11692013098647223345629478661730264157247460343808
1/23384026197294446691258957323460528314494920687616
1/46768052394588893382517914646921056628989841375232
1/93536104789177786765035829293842113257979682750464
1/187072209578355573530071658587684226515959365500928
1/374144419156711147060143317175368453031918731001856
1/748288838313422294120286634350736906063837462003712
1/1496577676626844588240573268701473812127674924007424
1/2993155353253689176481146537402947624255349848014848
1/5986310706507378352962293074805895248510699696029696
1/11972621413014756705924586149611790497021399392059392
1/23945242826029513411849172299223580994042798784118784
1/47890485652059026823698344598447161988085597568237568
1/95780971304118053647396689196894323976171195136475136
1/191561942608236107294793378393788647952342390272950272
1/383123885216472214589586756787577295904684780545900544
1/766247770432944429179173513575154591809369561091801088
1/1532495540865888858358347027150309183618739122183602176
1/3064991081731777716716694054300618367237478244367204352
1/6129982163463555433433388108601236734474956488734408704
1/12259964326927110866866776217202473468949912977468817408
1/24519928653854221733733552434404946937899825954937634816
1/49039857307708443467467104868809893875799651909875269632
1/98079714615416886934934209737619787751599303819750539264
1/196159429230833773869868419475239575503198607639501078528
1/392318858461667547739736838950479151006397215279002157056
1/784637716923335095479473677900958302012794430558004314112
1/1569275433846670190958947355801916604025588861116008628224
1/3138550867693340381917894711603833208051177722232017256448
1/6277101735386680763835789423207666416102355444464034512896
1/12554203470773361527671578846415332832204710888928069025792
1/25108406941546723055343157692830665664409421777856138051584
1/50216813883093446110686315385661331328818843555712276103168
1/100433627766186892221372630771322662657637687111424552206336
1/200867255532373784442745261542645325315275374222849104012672
1/401734511064747568885490523085290650630550748445698208025344
1/803469022129495137770981046170581301261101496891396416050688
1/1606938044258990275541962092341162602522202993782792832011376
1/3213876088517980551083924184682325205044405987565585664022752
1/6427752177035961102167848369364650410088811975131171328045504
1/12855504354071922204335696738729300820177623950262342656091008
1/25711008708143844408671393477458601640355247900524685312182016
1/51422017416287688817342786954917203280710495801049370624364032
1/102844034832575377634685573909834406561420991602098741248728064
1/205688069665150755269371147819668813122841983204197482497456128
1/411376139330301510538742295639337626245683966408394964994912256
1/822752278660603021077484591278675252491367932816789929989824512
1/1645504557321206042154969182557350504982735865633579859979649024
1/3291009114642412084309938365114701009965471731267159719959298048
1/6582018229284824168619876730229402019930943462534319439918596096
1/13164036458569648337239753460458804039861886925068638879837192192
1/26328072917139296674479506920917608079723773850137277759674384384
1/52656145834278593348959013841835216159447547700274555519348768768
1/105312291668557186697918027683670432318895095400549111038697537536
1/210624583337114373395836055367340864637790190801098222077395075072
1/421249166674228746791672110734681729275580381602196444154790150144
1/842498333348457493583344221469363458551160763204392888309580300288
1/1684996666896914987166688442938726917102321526408777776619160600576
1/3369993333793829974333376885877453834204643052817555553238321201152
1/6739986667587659948666753771754907668409286105635111106476642402304
1/13479973335175319897333507543509815336818572211270222212953284804608
1/26959946670350639794667015087019630673637144422540444425906569609216
1/53919893340701279589334030174039261347274288845080888851813139218432
1/107839786681402559178668060348078522694548577690161777703626278436864
1/215679573362805118357336120696157045389097155380323555407252556873728
1/431359146725610236714672241392314090778194310760647110814505113747456
1/862718293451220473429344482784628181556388621521294221629010227494912
1/1725436586902440946858688965569256363112777243042588443258020454989824
1/3450873173804881893717377931138512726225544486085176886516040909979648
1/6901746347609763787434755862277025452451088972170353773032081819959296
1/13803492695219527574869511724554050904902177944340707546064163639918592
1/27606985390439055149739023449108101809804355888681415092128327279837184
1/55213970780878110299478046898216203619608711777362830184256654559674368
1/110427941561756220598956093796432407239217423554725660368513309119348736
1/220855883123512441197912187592864814478434847109451320737026618238697472
1/441711766247024882395824375185729628956869694218902641474053236477394944
1/883423532494049764791648750371459257913739388437805282948106472954789888
1/1766847064988099529583297500742918515827478776875610565896212945909579776
1/3533694129976199059166595001485837031654957553751221131792425901819159552
1/7067388259952398118333190002971674063309915107502442263584851803638319104
1/14134776519904796236666380005943348126619830215004884527169703607276638208
1/28269553039809592473332760011886696253239660430009769054339407214553276416
1/56539106079619184946665520023773392506479320860019538108678814429106552832
1/113078212159238369893331040047546785012958641720039076217357628858213105664
1/226156424318476739786662080095093570025917283440078152434715257716426211328
1/452312848636953479573324160190187140051834566880156304869430515432852422656
1/904625697273906959146648320380374280103669133760312609738861030865704845312
1/1809251394547813918293296640760748560207338267520625219477722061731409690624
1/3618502789095627836586593281521497120414676535041250438955444123462819381248
1/7237005578191255673173186563042994240829353070082500877910888246925638762496
1/14474011156382511346346373126085988481658706140165001755821776493851377524992
1/28948022312765022692692746252171976963317412280330003511643552987702755049984
1/57896044625530045385385492504343953926634824560660007023287105975405510099968
1/115792089251060090770770985008687907853269649121320014046574211908111020199936
1/231584178502120181541541970017375815706539298242640028093148423816222040399872
1/463168357004240363083083940034751631413078596485280056186296847632444080799744
1/926336714008480726166167880069503262826157192970560112372593695264888161599488
1/1852673428016961452332335760139006525652314385941120224745187385529776323198976
1/3705346856033922904664671520278013051304628771882240449490374771059552646397952
1/7410693712067845809329343040556026102609257543764480898980749542119105292795904
1/14821387424135691618658686081112052205218515087528961797961499084238210585591808
1/29642774848271383237317372162224104410437030175057923595922998168476421171183616
1/59285549696542766474634744324448208820874060350115847191845996336952842342367232
1/118571099393085532949269488648964417641748120700231694383691992673905684684734464
1/237142198786171065898538977297928835283496241400463388767823985347811369369468928
1/474284397572342131797077954595857670566992482800926777535647970695622738738937856
1/948568795144684263594155909191715341133984965601853555071295941391245477477