

San Diego Sewer

Transit, No. 1

2

F.B. 681

681

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

Minutes.	Lks.	Minutes.	Lks.	Minutes.	Lks.
1	2½	21	49	41	95½
2	4½	22	51½	42	98
3	7	23	53½	43	100½
4	9½	24	56	44	102½
5	11½	25	58½	45	105
6	14	26	60½	46	107½
7	16½	27	63	47	109½
8	18½	28	65½	48	112
9	21	29	67½	49	114½
10	23½	30	70	50	116½
11	25½	31	72½	51	119
12	28	32	74½	52	121½
13	30½	33	77	53	123½
14	32½	34	79½	54	126
15	35	35	81½	55	128½
16	37½	36	84	56	130½
17	39½	37	86½	57	133
18	42	38	89	58	135½
19	44½	39	91	59	137½
20	46½	40	93½	60	140

PUBLISHED BY

EDWARD DENNY & CO.
DRAWING PAPER & MATERIAL, MATHEMATICAL INSTRUMENTS, ETC.,
STATIONERS AND PRINTERS,
SAN FRANCISCO, CAL.

Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle.	Cor. in links	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.
°		°		°		°	
4	0-24	11	1-88	18	5-14	25	10-54
5	0-38	12	2-24	19	5-76	26	11-26
6	0-55	13	2-63	20	6-42	27	12-24
7	0-76	14	3-06	21	7-11	28	13-37
8	0-98	15	3-53	22	7-85	29	14-34
9	1-24	16	4-02	23	8-64	30	15-47
10	1-55	17	4-56	24	9-47	35	22-07

Slatop 1/4

State it con with

main Livre

iter

0

+9,5

+19

+28,5

+38

+47,5

+57

+66,5

+76

+80

M. H. P. C.

N. L. H. P. T.

Don on 2nd of J

with main line

sta

- 0
- +19
- +18
- +27
- +36
- +44

N. L. G. st

Com with main

line on 3rd of J st

sta

0
 +15
 +23
 +31
 +39
 +47
 +55
 +61

y

n.l. J

con with main line

sta

0

+14

+23

+32

+41

+50

+59

+68

on ^{or} ~~6~~ & R

F

N. L. K

B street East of

14th

sta

0

+10

+20

+30

+40

+50

+56

+68

+73

1+18

+43

+68

+93

2+18

+43

+43 of 14th

PT

PT

3rd Street North

Sta

- 0
- +25
- +45
- +70
- +95
- 1+20
- +45
- +70
- +95
- 2+20
- +45
- +70
- +95
- 3+20
- +45
- +65
- 85
- 4+05
- +25
- +50

of Date

357th N of S L Date
N L Date

S L Elm

N L Elm

3rd street north

of Date

7

sta.

- +75-
- 5+00
- +25-
- +50
- +75-
- 6+00
- +25-
- +50
- +75-
- 5+00
- +25-
- +45
- 65-
- 85-
- 8+05-
- +30
- +55-
- +80
- 9+05
- +30

S L Fir

N L Fir

3rd Street north

sta

+55-

+80

10+05-

+30

+55-

+80

11+05-

of Date

8

S L Grape

20th street south

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

9

of C

J

+42 SLC

PT

M.L.D. st

27th struts south

of 6

sta

0+

+9.7

+19.4

+29.1

+38.8

+48.5

+54.8

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

+62

Y

PC

+42.3 S.L.C

PT

N.L.D

21st Street South

of C

11

ita

+82
4+02
+22
+47
+72
+97
5+22
+47
+72
+97
6+22
+47
+72
+97
7+22
+42
62
82
8+02
+97
+52

S L D

N L E

S L E

21st Street South

of C

sta

+77

9+02

+27

+52

+77

10+02

+27

+52

+77

11+02

N.S.F.

27th strut growth

of 6

0+

+10

+20

+30

+40

+50

+55

+68

+93

1 +18

+43

+68

+93

2 +18

+43

+68

+93

3 +18

+43

J. PC

+42.5 - MLC

PT

P i

A L B

6 to west of

Fifteenth

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

Y

P.C

+42 W L 15-

PT

Bu nests of

Fifteenth

15

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

42

Y PC

+42 WL 15-

PT

East west of

Siphon

sta

0+

+ 10

+ 20

+ 30

+ 40

+ 50

+ 56

+ 67

+ 92

1+17

+ 42

+ 67

+ 92

2+17

+ 42

+ 67

+ 92

3+17

+ 42

+ 67

+ 92

Y. PC

+42 WL 15th

P T

Est west of ¹⁴fifteenth

sta

4+17

+43

8 L 14th

Curve on Atlantic

+ Ash

ste

0+

+7.67

+15.34

+23.01

+30.68

+38.35

+46.02

+53.69

+61.36

+69.03

S L Ash PC

+54 E L Atlantic

PT Ash st

Grope strut

sta

0+

+10

+20

+30

+40

+50

+50

+64

+89

1+14

+39

+64

+89

2+14

+40

+53.5

+55.5

+77.5

3+15

+40

East of California

19

Y

PC

+39.5 E L California

P.T

W L Arctic

Y South

Y North

East L Arctic

Grape street

sta

+65

+90

4+15

+40

+65

+90

5+15

+28.5

+30.5

+52.5

+90

5+15

+40

+65

+90

6+15

+40

+65

+90

7+03.5

20
East of California

W L. India

E. L. India

Y north

Grape st

sta

+05,5

+27,5

x

39

40

41

42

East of California 21

y south

P.T.

Columbia st

sta

0+

+12.8

+22.7

+32.6

+42.5

+52.4

+58.6

+68

+93

1+18

+43

+68

+93

2+18

+43

+68

+93

3+18

+43

63

22

North of Grape

Y P C

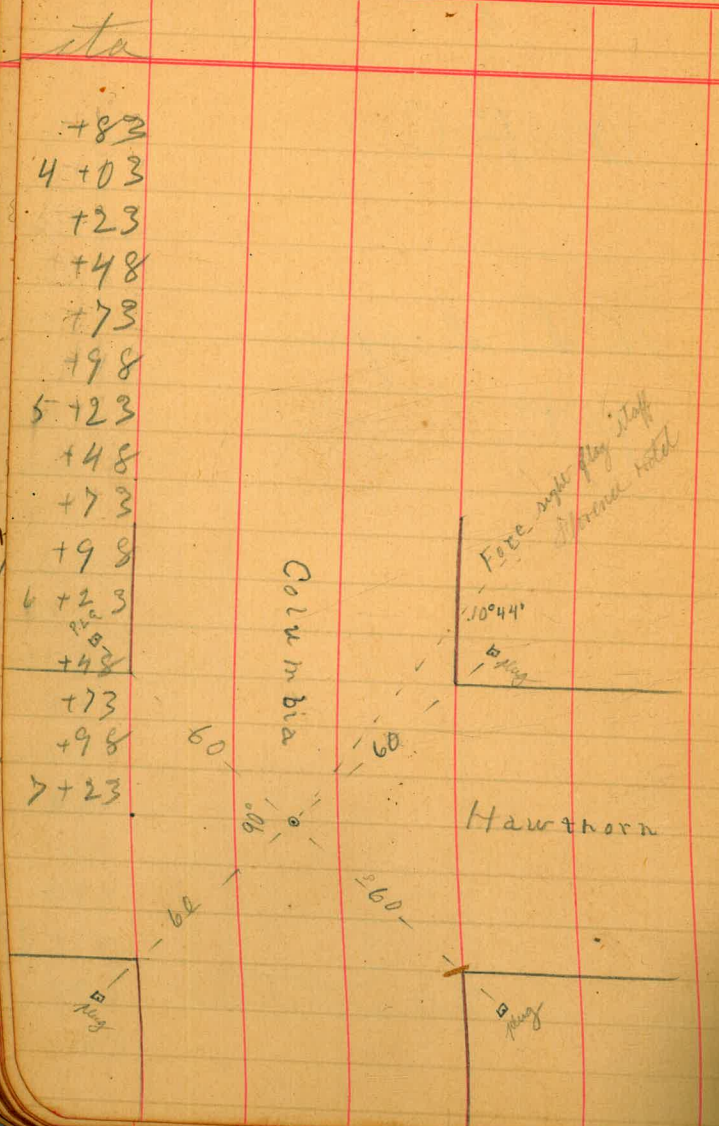
N L Grape

P T

S. L. Hawthorn

Columbia St

North of Grape 23



N L Hawthorn

S L Gray

Columbian st

sta

0
6
14
22
30
38
46
54
62
70
78
86
94
102
110
118
126
134
142
150
158
166
174
182
190
198
206
214
222
230
238
246
254
262
270
278
286
294
302
310
318
326
334
342
350
358
366
374
382
390
398
406
414
422
430
438
446
454
462
470
478
486
494
502
510
518
526
534
542
550
558
566
574
582
590
598
606
614
622
630
638
646
654
662
670
678
686
694
702
710
718
726
734
742
750
758
766
774
782
790
798
806
814
822
830
838
846
854
862
870
878
886
894
902
910
918
926
934
942
950
958
966
974
982
990
998

south of Grape

24

PC
y
+60
PT

N L Fir

India street North

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+65

+92

2+17

+42

+65

+92

3+17

+42

+62

25

of Grape

Y P C

+42 North Line Grape

P T

S L Hawthorn

India Street North of Grape

sta

+8.2

4+0.2

+22

+47

+72

+97

572.2

+47

+72

+97

6+22

+47

+72

+97

7+23

+43

+63

+83

8+0.3

Continued on last
page

N L Hawthorn

S L Ivy

North L Ivy

A street west

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

+67

of Fifteenth

27

J. P. C.

+42 W L 15-

P T

H street west

sta

+92

4+17

+43

of Fifteenth 28

East L 14th

Street West

etc

- 0+
- +10
- +20
- +30
- +40
- +50
- +56
- +67
- +92
- 1+17
- +42
- +67
- +92
- 2+17
- +42
- +67
- +92
- 3+17
- +42
- +67

of Fifteenth

YPC

+42 W L 15th

PT

Street West

ite

+92

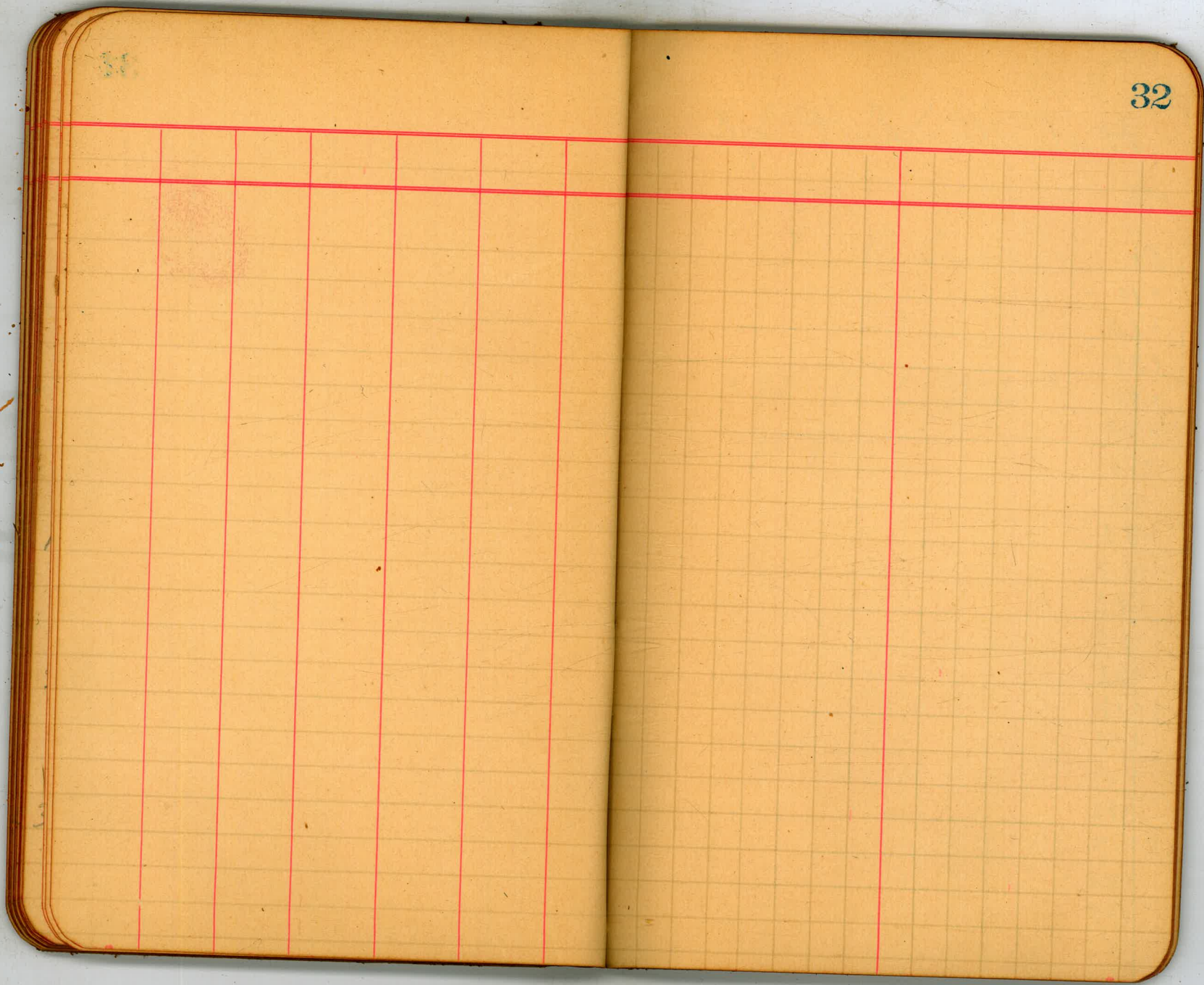
4+17

+42

of Fifth

30

East L 14th



H Street East of 22nd Street

sta

0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

+67

Y P C

+42 E L 22nd

P T

H Street East

of 22nd

34

sta

+ 92

4+17

+45

W L 24th

J street West of

sta

0+

+10

+20

+30

+40

+50

+56

+83

1+08

+33

+58

+83

2+08

+33

+38

+83

3+08

+33

+58

+83

24th street

35

J P C

+33 W L 24th

P T

J Street West

ste

4+08
+37.6

of 24th

East Line 22nd

J street work

sta
0+

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

+67

+92

of 15th street

Y P C

+ 42 W L 15th

P T

J street west

of 15th

38

4+17
+42

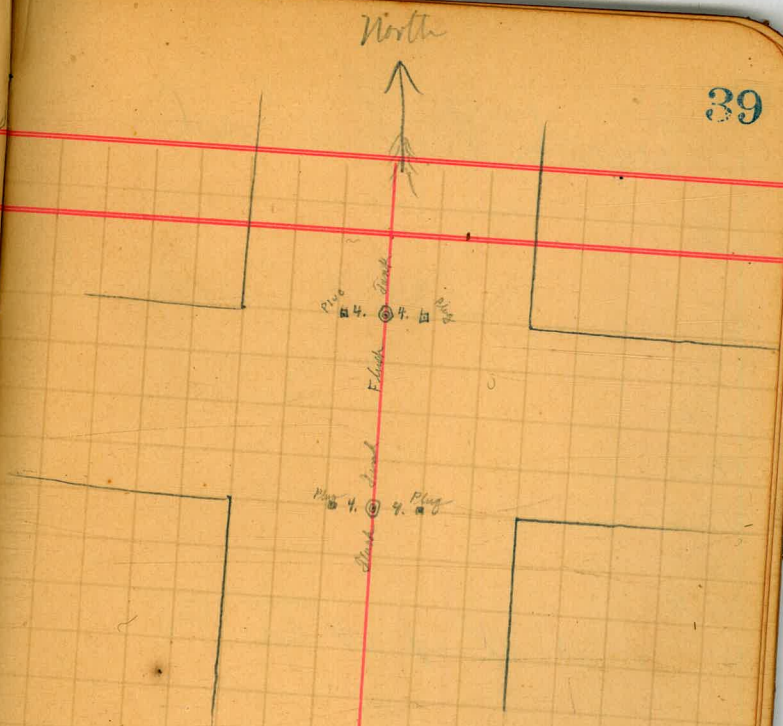
East line 14th

Location of Flash Tanks

Set plugs on property
lines 4 ft East & 4 ft
West of center of street
at

North line Fair & India.
North & South lines of
Columbia & Ivy.
North & South lines of
State & Hawthorn.
North & South lines
of Hawthorn & Union

39



First of Street

sta

0

+25

+36

+45.6

+55.2

+64.8

+75.4

+81 = 10' N. of N. line

40
Con with Main line

Man Hole

P. C

P. T

Indian Street South
Sta

0
+12.7
+22.6
+32.5
+42.4
+52.3
+58.5
+67
+92
1 +17
+42
+67
92
2 +17
+42
+67
+92
3 +17
+43

of Grape

41

Y PC

+ 42.4 S L Grape

PT

N L Tur

Juniper street

Sta

0+

+12,5

+37,5

+62,5

+87,5

1+12,5

+37,5

+62,5

+78

2+00

+37,5

+62,5

+87,5

3+12,5

+37,5

+62,5

+87,5

4+12,5

+38

+53,5

East of India

42

P T on India & Juniper

W. L. Columbia
y

E. L. Columbia

W L State
y

Juniper street

sta

+ 45.3

5 + 13

+ 38

+ 63

+ 88

6 + 13

+ 38

+ 63

+ 74

+ 83.9

+ 93.8

7 + 03.7

+ 13.6

+ 23.5

+ 33.4

+ 43.3

+ 53.2

+ 63.1

+ 73.

+ 82.9

+ 85.4

East of India

East Line State

P C

P T on Union of Juniper

Union street South

ita

0+

+15

+40

+65

+90

1+15

+40

+65

+90

2+15

+40

+65

+85

3+05

+25

+45

+70

+95

4+20

+45

44

of Juniper

PT Union + juniper

N L Joy

S L Joy

Union Street

sta.

+70

+95

5+20

+45

+70

+95

6+20

+45

South of Juniper

N L Hawthorn

State street

sta

0

+10

+20

+30

+40

+50

+56

+67

+92

1+17

+42

+67

+92

2+17

+42

+67

+92

3+17

+42

62

82

16

South of juniper

Y P C

+42 S L juniper

PT

N L Joy

State Street South

of Juniper

4+02

+22

+47

+72

+97

5+22

+47

+72

+97

6+22

+47

+72

+97

7+22



S L Joy

N L Hawthorn

Columbia street

sta

0+

+ 10

+ 20

+ 30

+ 40

+ 50

+ 56

+ 67

+ 92

1+17

+ 42

+ 67

+ 92

2+17

+ 42

+ 67

+ 92

3+17

43

48

South of juniper

Y PC

+42 S L juniper

PT

N L Gray

India street

sta

8+28

+53

+78

9+03

+28

+53

+78

10+03

+28

+53

+68

+79

+90

11+01

+12

+23

+34

+45

+56

+67

+78

+89

+92

PT

North of Grape

P C

PT

10

$8+2$

$+5$

$+7$

$9+0$

$+2$

$+5$

$+8$

$10+0$

$+2$

$+5$

$+6$

$+7$

$+9$

$11+0$

$+1$

$+2$

$+3$

$+4$

$+5$

$+6$

$+7$

$+8$

$+9$

Handwritten calculations on the left page of the notebook, including numbers like 100, 13.72, 13.72, 583, 33, 24-300, 56, 42, 14, 53, 23, 69, 18, 13, 13, 82, 168, 11, 1372, 56, 8232, 67, 4860, 42, 7.6832, 25, 8.0, 29.6, 2550, 37.6, 14.6, 8.5, 11.214, 13, 43, 44.

11.3

TRAVERSE TABLE FOR TRANSIT BOOK,
From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	81
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	80
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	79
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	78
4	99.76	6.98	99.73	7.41	99.69	7.55	99.66	8.28	77
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	76
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	75
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	74
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	73
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	72
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	71
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	70
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	69
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	68
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	67
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	66
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.52	65
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	64
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	63
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	62
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	61
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	60
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	59
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	58
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	57
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	56
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	55
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	54
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	53
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	52
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	51
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	50
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	49
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	48
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	47
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	46
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	45
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	54
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	53
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	52
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	51
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	50
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	49
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	48
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	47
45	70.71	70.71							46

Published by Edward Denny & Co., Stationers, Drawing Materials,
Mathematical Instruments, Etc., San Francisco.