

Format

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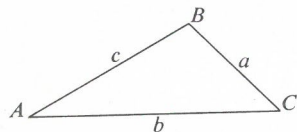
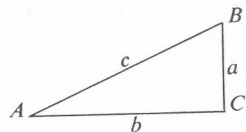


LIETZ

FIELD BOOK

No. 8152-60

FORMULAE FOR SOLVING RIGHT TRIANGLES



$$\sin A = \frac{a}{c} = \cos B \quad \cot A = \frac{b}{a} = \tan B$$

$$\cos A = \frac{b}{c} = \sin B \quad \sec A = \frac{c}{b} = \operatorname{cosec} B$$

$$\tan A = \frac{a}{b} = \cot B \quad \operatorname{cosec} A = \frac{c}{a} = \sec B$$

Given	Required	Solution
A, c	B, a, b	$B = 90^\circ - A, a = C \sin A, b = C \cos A.$
A, b	B, a, c	$B = 90^\circ - A, a = b \tan A, c = \frac{b}{\cos A}.$
A, a	B, b, c	$B = 90^\circ - A, b = a \cot A, c = \frac{a}{\sin A}.$
a, c	A, B, b	$\sin A = \frac{a}{c}, \cos B = \frac{a}{c}, b = \sqrt{(c+a)(c-a)}$
a, b	A, B, c	$\tan A = \frac{a}{b}, \cot B = \frac{a}{b}, c = \sqrt{a^2 + b^2}$

FORMULAE FOR SOLVING OBLIQUE TRIANGLES

Given	Required	Solution
A, a, b	B, c	$\sin B = \frac{b \sin A}{a}, c = \frac{a \sin C}{\sin A}$
A, B, a	b	$b = \frac{a \sin B}{\sin A}$
a, b, C	A, c	$A + B = 180^\circ - C, C = \frac{a \sin C}{\sin A}$
a, b, c	Area	side $\frac{a+b+c}{2}, \text{area} = \sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	$\text{area} = \frac{bc \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

Printed in England



ENGINEERS FIELD BOOKS

Rainproof fine quality bond, bound in high visibility chrome yellow Coverex. Printed in blue and red waterproof ink.

Left page: blue horizontal lines; red vertical lines.
Right page: 4 horizontal and 8 vertical blue lines; red vertical center line.

Stock No. 8152-00 Transit Field Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.
Stock No. 8152-05 Students Field Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Left page: blue horizontal lines; red vertical lines.
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Stock No. 8152-70 Cross Section Book. Size $5\frac{1}{2} \times 7\frac{1}{2}$ inches.
Stock No. 8152-75 Cross Section Book. Size $6\frac{1}{2} \times 8\frac{1}{2}$ inches.

Property of _____

Address _____

Phone _____



**SURVEYING INSTRUMENTS
AND EQUIPMENT**

- . levels
- . transits
- . theodolites
- . tripods
- . rods
- . hand levels
- . tapes
- . planimeters
- . accessories

The paper in this book is a fine quality thick Bond specially treated during the making to give "High Wet Strength". This quality has been used extensively for maps, etc. It retains its strength and writing surface when dried after having been subjected to extreme weather conditions.

1A - Top 5" $\rightarrow$ ~ 4' water
1B - 5" x 9" $\rightarrow$ cover
6' from cypress

2A, A'A'A"
 $\rightarrow$ 54.85' (elev of land at sample 2A)
4 diff samples at site 2
land saturated to 1' over a
~ 500' from oak rimmed berm (ridge)

lake elev at 56' $\frac{1}{2}$

9/15/95

stop 1 - 116-B

Water filled pit (most likely sand) just north of Old Kings Rd after it crosses I-95.

stop 2 - 119-C Off W. side of Old Kings Rd at site

of "Future Palm Coast Gun Club. Surface sands with organic material.

(4#9-42) (219 mi) S. from intersection of 95 & Old Kings

stop 3 - 129A North of 100

just east of intersection with 5A.

Intermittently worked pit - Anastasia Fm.

covered & flooded.

(1 mi east of I-95)

(Private Property)

stop 4 - Anastasia in active pit, prop. of Flagler Co. South of 100.2 mi E of 100 A I-95 (129-A) Locally 2 ft' of overburden (medium to coarse terrace sands) to 0' overburden overlie anastasia. Approximately 10' of lithified coquina is exposed above water level. Coquina weathers dark grey and varies from white to tan to reddish brown on cut surfaces. (

437-3930 } before noon.

3rd Fl. Jim Minnis
City admin

437-2218 - City.

9-16-86

RT 11 south west of Buinell

RT 11 - Cody's Corner
low land / no visible
exposures

R 11 - Cody's Corner to
Volonia line / no visible
exposures

RT 11 + Relay Rd
5-128D private rd,
locked gate / Wildlife
Mgmt area.

R 304 NE of Cody's corner
on 128D. Terrace Sands

RT 304 between Cody's
corner & US 1 / Terrace
sand and fill, no obvious
exposures

304 between 11 and 305
128-D No exposures

305 - south of Jct 304
No exposures.

County Rd 2009 replaces
305A to Disston Lake
~~Lake access no longer
exists / No coquina
exposures seen - Terrace
Sands only. At lake
coquina and shelly sand
are used for fill.~~

305 N of Intersection with
304 to St Johns Rk Rd
No exposures

St Johns Pk Rd - 3/8

305 N. 09 319, 9.09 intersect
with 20-100

6-118-D

Small Fill Operation,
silty sand, pale grey to
brown, currently graded.
Sample taken from
spoil pile

7A-129A (

Fill material / deposit
is spoil material from
old canal excavation.
(7A contains more
organics — top soil?)

7B-129A shelly silty sand
same location as 7A
fill material.

8-129A

Dark Brown silty sand
organic rich / spoil
material from old
canal — currently
Approximately 2 mi south
of county 100 — south of
east of Bunnell Airport,

Used in small fill
operation, Sample 8
taken at stop 8.

9-17-86

9-129 B

Borrow pit mapped from
topo sheet, located off
private property,
totally overgrown.
Flagler St 22 ft south

Flagler St



22 ft S



probably in Anastasia

10/6/86 Gt. John's Co.

210 between I-95 & US4
No outcrops observed.

210 between US-1 & Duval
Gt. John's line
Sands observed in
road ditches

Old Dixie Hwy - South group
210 thick / sands observed

86-C-1 045 210 $\approx$
1 1/2 miles NE of
210 Δ with US 1.
Dewatered with with
 $\approx$ 10' feet of sand
(fine to med.)

86-C-1

organic rich,
clayey silty sand
(soil zone)

1 sample
of entire
sequence
(channel
sample)

Well sorted
or bimodal
size
distribution.

No observed
layering
or bedding.

Tan to reddish
brown fine to
med. sand / color
prob. due to

Fe oxides
roots present
unconsolidated

White -
fine to medium
very clean
sand; $\approx$ 10%
(probably)
heavy minerals

1 sample
of pure
white sand

no evidence
of bedding
or layering
unconsolidated

210 A Paralleling
Intracoastal; Sands
observed in road ditches

ALA North of A with
210 A to D sand

203 IS of Duval to St Aug.
Sands observed,

86-C - 9-Mile Rd
off US 1 - Sands
observed in Roadside
Ditches.

US 1 - North of
Nine Mile Rd - Sands
observed in road ditches,
to Duval boundary

"Race track" Road Sands
observed in driveways.

I-95 - S. to St Aug
No observed exposures

10/7/96

'Race Track' Road -
sand observed in
road widening ~~Start~~

Orange Ave - sand observed
at road-side.

138 - sand observed

85-C-/- Organic rich,
clayey, silty sand
with lots of shell,
brown - sample
taken County
borrow pit, mostly
flooded (pond)
spoil piles but no
exposed cuts,

①
spoil pile

Brown, (organic-rich)
Very poorly sorted
shelly sand

spoil pile sampled.

County 13 in 85-C
sand observed

210 in 85-D from A
of 16-A & 13

85-D McQuire Rd.
to 16-A sand observed

16-A from McQuire
to 210, sand observed,
along the road

9-mile Rd. Not 16.
to US 1, no exposures
noted

16 between 1 and 95-sand.

16 NW of I-95-
sand

102-B-1 / Flooded
Borrow Pit in sand.

208 from int. with 13
to E boundary of
the quad; sand

Joe Ashton sand
observed in road-ditches
and pond excavations,
no borrow-pits observed

10-B-2 - No access to
this pit - Chained and
locked.

214 - East of 13 in Q 102-D

13 south of 214 to
boundary of 102 D
sand

Rt 16 on 103A between
9-mile rd. and I-95 &
I-95 to Quad boundary
(103-A) (sand)

208 going S.W. Group
I-99 (on 103 A) (sand

Cabbage Hammock Rd.
South of 208 (sand in
road ditches).

13-A South off 208 to
southern boundary
of 103 A shelly sand
in pond excavations

13-A North off 208 / 4.09
16 (sand in road ditches)

North of 16 / Frances Rd
shelly sand in road
ditches

(80-A) 210 N (organic
sands)

10/8/86 West $\approx$ half of 103-C

7/9/79

1 J - $\frac{1}{2}$ mile E of Aicla River SR90
(Road cut N side of road at intersection)

Miccosukee Fm - moderately
indurated sandy loam.
dark red - light red -
olive gray.
predominant silt size
to fine sand grains.

mottly green -
lenses of lighter color
yellowish red set
in more massive
reddish matrix.
Fm goes from
surface to indeterminate
depth. highly weathered
limonitic staining.

7/9/79

1T - 2 miles NE of Gulf on SR 361A
~ 100 yds on N side of road

Limestone - white to dirty
gray; abundant shell
mixed in with matrix.

Fm outcropping & surrounded
by sandy soil. appears to have
assoc dolomite. probably Suwannee
Fm. It outcrops sporadically
S of Perry.

(Molluscs, Forams present)

7/9/79

LA-1

— West side of Suwannee River
at Hal Adams Bridge (Lafayette
city side)

Suwannee LS -

fresh surface - white to light
brown color; weathers to
reddish brown & olive gray.
outcrop is an irregular
weathered surface showing
small solution cavities and
nodular type crust. fm occurs
from indeterminate depth
below water line to
a max height of approximately
6 feet.

The sample contains numerous
mollusc, foram & broken
shell fragments embedded in
a calcareous matrix.

massive - no observed bedding

7/10/79

LA-2 - West side of Suwannee River
off of LA bridge at Blue Springs

LS - fresh surface - white to
pinkish brown. weathers to
dark reddish brown to drab
olive gray. weathered surface
forms a thin ^{nodular like} crust over
a calcareous brecciated interior.
Numerous s.l. cavities &
rounded weathered nodule
like crust. LS occurs from
indeterminate depth below
surface to a max height of 18 inches
above water level.

Numerous *Lepidocyclus*,
mollusc & forams.

Limestone is massive with
no apparent bedding evident.
LS outcrops on both side
of River at this
locality.

7-10-79

LA-3 - Troy Springs (west side
of Suwannee River in Lafayette
County.

Suwannee LS - fresh cut is
white to light Tan; weathers to
orangish brown to olive gray.
moderately indurated
Contains numerous mollusc
stbryozoa.

Fm outcrop is indeterminate.
depth below H₂O level but
rises to max elevation of
~ 6 feet above the water
level. has very smooth
rounded weathered
crystal surface. Limestone
^{overlain} ~~is~~ ^{by} ~~upward~~ ^{by} a silty
clay ^{layer} with limonitic like
stringers throughout it.
Numerous pugs and small
solution cavities throughout
the limestone

7/10/79

LA-4

- located on (51) about 3 miles
SW of Cooks Hammock on
E side of road.

Dolomitic Limestone

Color - fresh cut is white to light
& very dark ~~gray~~ brown.

weathered color is white to

gray to black. much of the
LS has been replaced by dolomite
highly indurated & brittle.

outcrop is just above surface
at about 35' elevation. & occurs
as sporadic outcrops along (51)

very small sh. like pug or
pin hole openings.

no micro fauna observed.

If present they may have
been altered beyond recognition
if dolomitization replacement
occurred.

7-11-79

LA-5 - located at Steinhatchee Springs
sw of Cooks Hammock. (on SE side

Crystal River > of Steinhatchee River

Color - fresh cut is nearly pure
white to pink. weathers
to a olive gray to reddish
brown.

Composed essentially of CaCO_3
sample is from elevation
of about 25' msl or about
1' above water level.

Fm is moderately indurated
& composed of biogenic
material (mollusc, foram, *Lepidocyclina*)
interbedded in a micritic
matrix. This outcrop
is present on both
sides of river to a
maximum elevation of
~ 3' above the water
level and is overlain
by a silty sand
unit at surface

7/2/79

D-1
D-1

located ~ 1 mile S of
Tennille on E side of
US 19 in a large quarry.
Crystal River Fm
Color - fresh - white &
weathers to brown to rusty
red color. composed almost
entirely of CaCO_3
sample taken about 2' > msl
~~about~~ depth of fm is undetermined
but rises to about 20' > msl
Fm is exposed all around
the quarry & is in places
overlain by a thin veneer
of surface sand. It is
moderately indurated &
composed of mollusc, bryozoan
forams & numerous *Lepidocyclus*
which are embedded in a
micritic matrix. Some
dolomitic replacement is
evident.

7/11/79

D

T-2 - located at Steinhatchee
Falls on the " River
E of SR 51.

Dolomite member of the Crystal River Fm.

Color - fresh is a uniform

Tan color & weathers to

a dark Brown to olive black.

Composed essentially of dolomite

with a very uniform lithology

This member occurs at water

level & its resistance to str.

causes a small falls at this pt in

the river. Thickness of dolomite

member is indeterminate here

as it occurs below H₂O. Unit

occurs on both sides of the

River & across it forming the

Falls. No microfossils present

however a few ^{mollusk} molds were

observed. The Crystal River

Fm overlies this member on the

w. side of the river with a thickness

of ~ 6' & forms the surface. The

E side has a thin covering of

CR which in turn is overlain
by ~ 6' of sand/chy.

7-12-79

LA-6 - end of SR 138 on W
side of sawannee River

Sawannee Limestone

Color - fresh cut is pink to white
weathers to dirty gray to olive
composed of essentially CaCO_3

but has a small percent of
dolomite (probably secondary
replacement). Fm occurs
sporadically here up to

a max of 6' above the
River level. Depth is indeterminate.

The Fm is moderately
indurated & contains
numerous shell material
including mollusc in a
matrix of micrite.

This Fm is overlain
by a sand/silt sequence
that measures about
10 feet.

7/12/79

Su-1 located on about 1.8 miles E
of SRS1 on N side of Bonnet Spgs

Suwannee Formation

color - fresh is white to
light orangish tan. & weathers
to an olive gray & darker
brown. This outcrop
extends um the perimeter
of the springs from
below the H_2O line to
as much as 6' above the
 H_2O line. An indistinct
horizontal bedding is suggested.
Slumping has occurred giving
a tilt to beds on the N
side. The sample is a
dolomitic LS that is well
indurated. No microfauna
was observed in sample but
could be due to secondary
dolomitization.

7/12/79

Ju-2

located on about
2 miles E of SR 51 near
Luraville & peacock Springs
on E side, Suwannee LS

Color - fresh surface is a
light pinkish tan. weathers
to a drab olive gray
& blackish gray. The formation
extends from the spg from
an indeterminate depth below the
water surface to a max of
5' above the water surface & forms
the land surface. It occurs in
slabs showing a slightly tilted
(NE) orientation. the composition
is essentially LS and has
very minor dolomite. Biogenic
material such as molluscs &
gastropods are present in a
micritic matrix. The
surface is very rough and
weathered having a pockmarked
appearance. Slumping is
present.

7/13/79

H-1

located at White Spss
Bridge on Suwannee River
on E side of " "
Suwannee Limestone

Color - fresh piece is a
whitish gray with some
limonite like staining.
it weathers to a olive gray
to grayish black.

The formation outcrops
on both side of the River
in a massive block
like manner with occasional
tilting due to slumping.

It is overlain by a thick
sequence of silty sands,
averaging about 30-40 feet.
The sample is moderately
indurated and contains
numerous shell material
in a limey matrix. The
composition is essentially
 CaCO_3 . Few shn features
were observed.

7/18/79

Washington 1 located W side of
Blue Springs in
Washington Cty off of
Blue Springs Rd.

~~Fibropala~~ Fan

fresh color is a white to
light tan and weathers
to a grayish black and
olive color. depth is
about 2' above water
level. Thickness was
indeterminate

Sample was moderately
indurated with a
micritic matrix surrounding
broken shells of mollusc
and foraminifera.

Composition is essentially
all calcite. no
large sin cavities evident
within the matrix.

9/27/79

St. Johns #1 located Anastasia State
Park off of A1A
in St. Augustine
Sands

Fresh color is a white
to light gray and
weathers to a slightly
darker gray. Elevation
is sea level to approx
15' above sea level.

Thickness is indeterminate.
Sample shows no
induration and is
made up of fine to
medium grained qtz
with a small percentage
of heavies. Composite
is predominantly qtz.
Foliation of alternating
light & darker strata
measuring 18-2 mm is
present with inclined
orientation.

9/27/79

F-1

Flagler Cty. located $\frac{1}{2}$ mile
East of I-95 on
SR 100 on N side of
road in a borrow pit
currently being mined
Anastasia Fm - white to
orange to gray shell
coquina in a sand
matrix. Fm at surface
& being mined to depth
of ~15'. indetermined
depth. Sand matrix
is medium to coarse
Fm is loose to
medium indurated.

1/23/80

Orange #1 located Lake Apopka
off SR 437 T215 R28E
Section 30. (small park)
Sand

Fresh color is a light
gray with black specks.
elevation is ~ 70' to 73'
Thickness is indeterminate
Sample is nonindurated
and is composed of
very fine to fine grained
quartz with a
few percent heavies.
No apparent structure
or orientation.
grains are angular
to subangular.
No microfossils present

Orange #2

located T 21 S
R 38 E Sec 18
off S. side of Zellwood
Farm Road.

Fresh color is dark
black. elevation
about 70', depth
is indeterminate, grain
size is medium to
fine size, 9 to 12 grains
no preferred
orientation or
structure. surface
sand with no
induration, no
micropore.
grain is angular
to subangular.

Orange #3 rock springs
(Kelly park)

T 205, R 28E Sec 15

Hawthorn fm

Sample from west side

of springs. elevation is
~ 4' above Spgs water level

Thickness is from surface to
water surface to

indeterminate depth.

Sample is very dense.

and has numerous

borings and molds.

Silicified oysters +

other mollusks present

weathered color is gray to brown.

gray splotted. fresh

cut surface is gray

white + has sugary

texture grainy -

micro to VF. indurated

to good and low

scattered textures. no

apparent bedding or

quartzite

Orange #4 located on Darlene Dr.

T-245 R 28E Sec 10

near Big Sand Lake

Surface sand - weathers to white
to light gray. Fresh
is olive gray. Grain
size varies from
fine to med. Sand
is predominant.
Quartz grain with
heavier present.
grains are angular.
elevation is ~ 105'
Sample is surface
sand with indeterminate
depth. no chert
or boulders present.
roots & plant fibers in
sand.

Orange #5

1/25/80

located ~ 1/4 mile
S of SR50 near Turnpike
entrance
T 22S R27E Sec 29

Surface sand - whitish gray to
white sst grains
exhibiting no
structure. Grain
size is fine to
medium. Grains
are subangular.
elevation is ~ 150' asl.
Plant material in
form of roots present.
Predominant constituent
is sst with a
few heavies

Format

D

Orange #5

1/25/80

located ~ 1/4 mile
S of SR50 near Turnpike
entrance
T 22S R 27E Sec 29

surface sand - whitish gray to
white silt grains
exhibiting no
structure. grain
size is fine to
medium. Grains
are subangular
elevation is ~ 150' asl
plant material in
form of roots present.
Predominant constituent
is silt with a
few heavies

Alachua I

1/25/80

Dolomite LS - weathers to
(Hawthorn) a sandy brown

to gray. Fresh
cut chalky white.

Deeply weathered
+ extensive dolomitization

Grain size is
micro to very

fine. Sample

is at surface

+ located 2 miles

S of Gainesville on

East side of

441 near Ravine.

Shell material

present but

highly weathered

Surface sand - located
on N side of SR
236 about 1/2 mile
E of I-75. weathers
to highly oxidized
reddish orange.
Consists of sandy
loam with fine
grained quartz
grains and a
clay/silt
component. rootlets
present but
no microfossils.
Sample at surface
+ goes to indeterminate
depth.

2/7/80

St. Johns #2

surface sand - located on beach

dunes at Fort
Matanzas National
Park beach entrance
white to light gray
in color. consists
of relatively

clean quartz sand
with minor heavies.
grain size is

fine to medium
size grain. no
microfossils present

sample at ~ 6'
above water level
& has indeterminate
depth. fine lamination
present.

2/7/80

Flag #2

Anastasi Fm - located
on Marine land
Beach at elevati-
on of ~ 3 above
MSL. sample
is indurated.
Cementing agent
being predominantly
 CaCO_3 . numerous
micro fauna
including forams,
and molluscs. no
bedding discernable
+ Fm outcrops
in irregular
sporadic pattern.
Color is orange to
white.

2/7/80

Flagler #3

Anastasia Fm. - located
Marine land beach
off of A1A, elevation
is ~3' above sea
level. sample
is nonindurated
and consists of
mollusc & foram
shells in addition
to silt sand.
Color varies from
bright orange to
gray to translucent
This occurrence is
near Fm's most
northerly surface
appearance. Depth
was indeterminate.

Pit man #1

UND. of sandy clay - located off
SR 100 ~ 1 mile
west of Grandin in large
pit. Color is
bright orange &
consist of medium
to coarse size
qtz grains in
a silt matrix.
elevation is about
10' below surface
& thickness is
~ 10'. No micro-
fossils present. apparently
used for local road
fill.

Portman #2 - located on
SR 100 just
Unnamed ~ 1 mile east of
Coarse clastic Temples, Fla. sample
Taken about
20' below surface
& underlies a silt sand
sequence. Sample
consist of sand/silt
& gravel. gravel is
rounded pebbles
resembling river
borne pebbles.
Color is gray to
Translucent. Thickness
is ~ 10' lithified
to moderate & some

Date

ID #

Location

Fm name

Color $\begin{cases} \text{fresh} \\ \text{weathered} \end{cases}$

composition

accessory minerals

elevation

depth & extent + overlying units

grain size

matrix & induration

angularity

sln features

microfauna (mollusc, gastropods,
bryozoa, foram, coral, sponge)

CURVE FORMULAE

D = Degree of Curve

1° = 1-Degree of Curve

2° = 2-Degree of Curve

P.C.=Point of Curve

P.T. = Point of Tangent

P.I. = Point of Intersection

I = Intersection of Angle, Angle
between Two Tangents

L = Length of Curve,
from P.C. to P.T.

T = Tangent Distance

E = External Distance

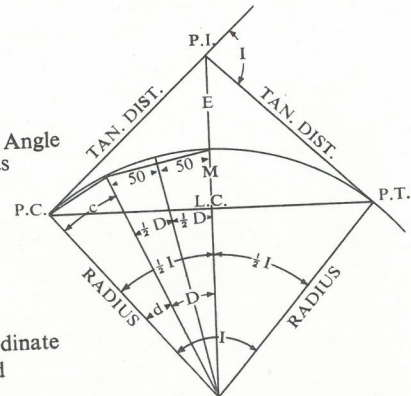
R = Radius

L.C. = Length of Chord

M = Length of Middle Ordinate

c = Length of Sub-Chord

d = Angle of Sub-Chord



$$R = \frac{L.C.}{2 \sin \frac{1}{2} I} \quad T = R \tan \frac{1}{2} I = \frac{L.C.}{2 \cos \frac{1}{2} I}$$

$$\frac{L.C.}{2} = R \sin \frac{I}{2}, D 1^\circ = R = 5730, D 2^\circ = \frac{5730}{2}, D = \frac{5730}{R}$$

$$M = R (1 - \cos \frac{1}{2} I), = R - R \cos \frac{I}{2}$$

$$\frac{E + R}{R} = \sec \frac{I}{2}, \quad \frac{R - M}{R} = \cos \frac{I}{2}$$

$$c = 2 R \sin \frac{1}{2} d, d = \frac{c}{2 R}$$

$$\text{L.C.} = 2R \sin \frac{1}{2} I, E = R (\sec \frac{1}{2} I - 1), = R \sec \frac{1}{2} I - R$$

Minutes in Decimals of a Degree

Minutes in Decimals of a Day											
1'	·0167	11'	·1833	21'	·3500	31'	·5167	41'	·6833	51'	·8500
2	·0333	12	·2000	22	·3667	32	·5333	42	·7000	52	·8667
3	·0500	13	·2167	23	·3833	33	·5500	43	·7167	53	·8833
4	·0667	14	·2333	24	·4000	34	·5667	44	·7333	54	·9000
5	·0833	15	·2500	25	·4167	35	·5833	45	·7500	55	·9167
6	·1000	16	·2667	26	·4333	36	·6000	46	·7667	56	·9333
7	·1167	17	·2833	27	·4500	37	·6167	47	·7833	57	·9667
8	·1333	18	·3000	28	·4667	38	·6333	48	·8000	58	·9833
9	·1500	19	·3167	29	·4833	39	·6500	49	·8167	59	·9833
10	·1667	20	·3333	30	·5000	40	·6667	50	·8333	60	1·0000

Inches in Decimals of a Foot

$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729	
1	2	3	4	5	6	7	8	9	10	11	
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	



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