

Lat. $17^{\circ} 29' =$ Co. Lat. $107^{\circ} 29'$ Lat. $37^{\circ} 48' =$ Co. Lat. $52^{\circ} 12'$
Long. $149^{\circ} 29'$ W. to Long. $122^{\circ} 24'$ W. $= \frac{1}{2}$ diff. Long. $13^{\circ} 32' 30''$.

$\frac{1}{2}$ diff. Long. log. Sin. ...	9.3694987			
Sin. ² ...	18.7389974			
Sin Co. Lat. ...	9.9794593			
Sin. Co. Lat. ...	9.8977123			
	2)38.6161690			
	19.3080845	...	...	19.3080845
Sin. $\frac{1}{2}$ diff. Co. Lat. ...	9.6664622			
	9.6416223	...	...	Sin. 9.6034879
	30° 25' 56"	...	...	9.7045966
Distance, 3,652 miles $=$	60° 51' 52"			

GREAT CIRCLE FOR COURSE.—TAHITI TO SAN FRANCISCO.

(See Diagram No. 9.)

60° 51' 52"	...	9.9412572					
		0.0587428	...	...	...	0.0587428	
27° 5'	...	9.6582842	...	...	...	9.6582842	
52° 12'	...	9.8977123	...	107° 29'	...	9.9794593	
N. 24° 19' E. ...	9.6147393	S. 29° 49' W. ...	9.6964863				
Course from Tahiti to San Francisco.		Course from San Francisco to Tahiti.					
Lat. 17° 29' ...	9.4777	37° 48' ...	9.7874				
Tang. 24° 19' ...	9.6550	29° 49' ...	9.7582				
Diff. Long. 7° 44' ...	9.1327	19° 21' ...	9.5456				
Long. 149° 29' W.		122° 24'					
141° 45' W.		141° 45' W.					

Long of point where great Circle cuts the Equator.

Sin. of course 29° 49' ...	9.6964863
Lat. ... 52° 12' ...	9.8977123

From Equator to either place, 23° 08' ... 9.5941986

ON GREAT CIRCLE FOR DISTANCE.—SWAN ISLAND TO CAPE FAREWELL.

Swan Island ... Lat. $40^{\circ} 44'$ S., Long. $148^{\circ} 9'$ E.
Cape Farewell, Lat. $40^{\circ} 30'$ S., Long. $172^{\circ} 42'$ E.

Lat. $40^{\circ} 44' =$ Co. Lat. $49^{\circ} 16'$ and Lat. $40^{\circ} 30' =$ Co. Lat. $49^{\circ} 30'$
Long. $148^{\circ} 9'$ to Long $172^{\circ} 42' = \frac{1}{2}$ diff. Long. $12^{\circ} 16' 30''$.

$\frac{1}{2}$ diff. Long. ...	...	9.3275715			
Sin. ² ...	...	18.6551430			
Co. Lat. Sin. ...	...	9.8810455			
Co. Lat. Sin. ...	...	9.8795287			
		2)38.4157172			
		19.2078586	...	...	19.2078586
$\frac{1}{2}$ diff. Co. Lat. Sin. ...	...	7.3088239			
89° 16' 38" Tang. $=$	11.8990347	...	...	Sin. 9.9999654	
	9° 17' 17"	...	...	9.2078932	
Distance, 1,114.5 miles $=$	18° 34' 34"				