

2/1 SQA-NAV-2000 JUNE - Q2. RYA.

- 2) 15th May '76 @ 2130 GMT, Cargo V/L 31°18'N 69°26'W.
 Passenger V/L 29°42'N 65°14'W, Co 260°T @ 23K. R/V @ 16th
 Calc. a) GMT Sunrise b) R/V pos'n c) Co & Spd req'd of C.V.

a) 16 th May ☉ 29°N 16d 05h 08m LMT	☉ LMT
65°14'W LIT. 4h 21m	NA '76 30°N 05 06
1 st App ☉ 16d 09h 29m GMT	MAY 16 th 20°N 05 24
Start time 15d 21h 30m GMT	∴ 29°N = 05 08
1 st App Run time/dist. 11h 59m @ 23K = 275'.6	

$$\begin{aligned} D_{\text{lat}} &= \text{Dist} \cos Co \\ &= 275.6 \cos 260^\circ \\ &= 47.9 S \end{aligned}$$

$$\begin{aligned} \text{Dep} &= \text{Dist} \sin Co \\ &= 275.6 \sin 260^\circ \\ &= 271.4 W \end{aligned}$$

$$\begin{aligned} \text{D}_{\text{lg}} &= \text{Dep} / \cos M_{\text{lat}} \\ &= 311.2 W \end{aligned}$$

$$\begin{aligned} D_{\text{lat}} &= 283.7 \cos 260 = 49.3 S \\ \text{Dep} &= 283.7 \sin 260 = 279.4 W \\ \text{D}_{\text{lg}} &= 279.4 / \cos 29^\circ 17' 6 = 320.4 W \end{aligned}$$

$$\begin{aligned} \text{Dep} &= \text{D}_{\text{lg}} \cos M_{\text{lat}} \\ &= 68.4 \cos 30^\circ 06' = 59.176 W \end{aligned}$$

$$\begin{aligned} \text{Tan} Co &= \text{Dep} / D_{\text{lat}} \\ &= 59.176 / 145.3 \\ &= 522.15948 W \end{aligned}$$

$$\begin{aligned} \text{Dist} &= D_{\text{lat}} / \cos Co \\ &= 145.3 / \cos 22.15948 \\ &= 156.9 \text{ in } 12.33 \text{ hrs} \\ &= 12.72 \text{ knots} \end{aligned}$$

Start Lat 29° 42' N	Lg 065° 14' W
D _{lat} 47.9 S	D _{lg} 5° 11.2 W
1 st App Lat 28° 54.1 N	Lg 070° 25.2 W
Mean Lat 29° 18'	

16 th ☉ 29°N 16d 05h 08m LMT	
070°25.2'W LIT. 4h 42m	
2 nd App ☉ 16d 09h 50m GMT	**
Start 15d 21h 30m	

2nd App Run Time/dist. 12h 20m @ 23K = 283.7

PV Start Lat 29° 42' N	M. Lat	Lg 065° 14' W
D _{lat} 49.3 S	29° 17.6	5° 20.4 W

2 nd App Pos'n 28° 52.7 N	Lg 070° 34.4 W	**b)
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C/V Start 31° 18' N	069° 26' W
D _{lat} 2° 25.3 S	D _{lg} 1° 08.4 W
145.3 S	M. Lat 30° 06'
	68.4 W

c) C/V Course 202.16 T @ 12.72 knots **