Note on Interpolating Pub 249
If you use Pub 249 for these sight reductions, your answers may differ by as much as 0.5' from those given because Pub 249 has only 1' precision. This can be improved by interpolating the d-correction table instead of rounding off the declination minutes as described in the earlier instructions; i.e, if dec minutes is 13.7' and the correction for 13 is 8 and the correction for 14 is 9, then use 8.7 as the correction.

6.6 Running Fixes from the Sun

1. 21°28.1′ N, 125° 26.3′ W
2. 27° 54.5′ N, 5° 23.2′ W
3. 26° 43.3′ N, 135° 13.6′ E
4. 20° 54.6′ S, 32° 57.4′ W
5. 29° 08.7′ S, 34° 57.8′ E
6. 26° 37.0′ S, 62° 59.5′ E

Intermediate Answers for Problems 6.6... there are more details on the next page

R fix probs. intermediate steps:

	Run		DR		for plot	for sight reduction		
WT	Time	Dist	Latitude	Longitude	a-Lon	a-Lat	LHA	dec
(1) 1015	01 15	16.3	21° 50.8' N,	124° 26.9' W	124° 47.1' W	22° N	328°	N 14°
(1) 1156	01 41	21.9	21° 43.3' N,	124° 49.1' W	125° 4.1' W	22° N	353°	N 14°
(1) 1425	02 29	32.3	21° 32.3' N,	125° 21.7' W	125° 18.1' W	22° N	30°	N 14°
(2) 1015	01 35	14.3	28° 17.0' N,	6° 4.1' W	6° 0.4' W	28° N	328°	S 23°
(2) 1200	01 45	15.8	28° 9.2' N,	5° 48.6' W	6° 17.4' W	28° N	354°	S 23°
(2) 1420	02 20	21.0	27° 58.7' N,	5° 28.0' W	5° 8.4' W	28° N	30°	S 23°
(3) 1013	02 13	24.4	27° 50.1' N,	135° 32.5' E	135° 20.3' E	28° N	332°	N 21°
(3) 1255	02 42	29.7	27° 20.8' N,	135° 26.7' E	135° 47.2' E	27° N	13°	N 21°
(3) 1646	03 51	42.4	26° 39.1' N,	135° 18.4' E	135° 6.9' E	27° N	40°	N 21°
(4) 1018	02 03	20.5	20° 21.5' S,	32° 27.0' W	32° 12.0' W	20° S	331°	N 21°
(4) 1255	02 37	26.2	20° 41.6' S,	32° 45.0' W	32° 30.8' W	21° S	10°	N 21°
(4) 1404	01 09	11.5	20° 50.4' S,	32° 52.9' W	32° 42.2' W	21° S	27°	N 21°
(5) 1000	01 45	21.0	29° 37.8' S,	36° 4.0' E	35° 53.2' E	30° S	335°	N 3°
(5) 1235	02 35	31.0	29° 24.7' S,	35° 31.7' E	35° 8.9' E	29° S	13°	N 3°
(5) 1455	02 20	28.0	29° 12.9' S,	35° 2.6' E	35° 3.5' E	29° S	48°	N 3°
(6) 1016	01 16	19.0	28° 11.7' S,	62° 36.9' E	62° 11.1' E	28° S	335°	N 14°
(6) 1230	02 14	33.5	27° 38.7' S,	62° 43.5' E	62° 42.1' E	28° S	9°	N 14°
(6) 1620	03 50	57.5	26° 42.1' S,	62° 54.8' E	63° 9.7' E	27° S	67°	N 14°

6.6a More intermediate answers to the running fix problems

These can be used to check your work, but note that you may not get the precise values of Hc and Zn shown here because these have been calculated, not solved from tables. These are correct however, and differences show the limitations of the tables and the procedures used. In particular, note that the Zn values will differ by a degree or so in some cases. When using 249 or 229, this comes about primarily because the Z value is typically not corrected for the minutes part of the declination.

Usually you can account for most of this by taking the Z from the next highest declination whenever the minutes part of the declination is greater than 30'. Remember, however, that you must always take Hc in the normal manner and then correct for it as done earlier. In other words, whenever the minutes part of the declination is greater than 30 and you notice that the Z value for the next declination is different, then take it to the forms, but do everything else the same.

	WT	a-Lat	LHA	Dec	Hc	Zn
(1)	1015	22° N	328°	N 14° 54.5'	58° 53.6'	097.6°
	1156	22° N	353°	N 14° 53.2'	80° 16.4'	135.8°
	1425	22° N	30°	N 14° 51.3'	60° 42.7'	261.1°
(2)	1015	28° N	328°	S 23° 26.5'	30° 00.9'	145.8°
	1200	28° N	354°	S 23° 26.4'	38° 14.1'	173.0°
	1420	28° N	30°	S 23° 26.4'	30° 59.1'	212.4°
(3)	1013	28° N	332°	N 21° 54.0'	63° 57.3'	097.2°
	1255	27° N	13°	N 21° 53.1'	77° 07.0'	249.4°
	1646	27° N	40°	N 21° 52.4'	53° 22.5'	270.9°
(4)	1018	20° S	331°	N 21° 58.6'	39° 21.5'	035.6°
	1255	21° S	10°	N 21° 57.7'	45° 56.6'	346.6°
	1404	21° S	27°	N 21° 57.3'	39° 36.4'	326.9°
(5)	1000	30° S	335°	N 3° 41.2'	48° 41.2'	039.7°
	1235	29° S	13°	N 3° 43.7'	54° 58.3'	337.0°
	1455	29° S	48°	N 3° 46.0'	33° 30.8'	297.2°
(6)	1016	28° S	335°	N 14° 45.4'	40° 51.8'	032.7°
	1230	28° S	9°	N 14° 43.7'	46° 23.5'	347.3°
	1620	27° S	67°	N 14° 40.8'	12° 48.6'	294.1°

These values can also be used for practice with the NAO sight reduction tables. You have the 3 values needed (a-Lat, dec, and LHA) and the answers (Hc and Zn) you should get. It doesn't matter where they come from, sun, moon, stars or planets.