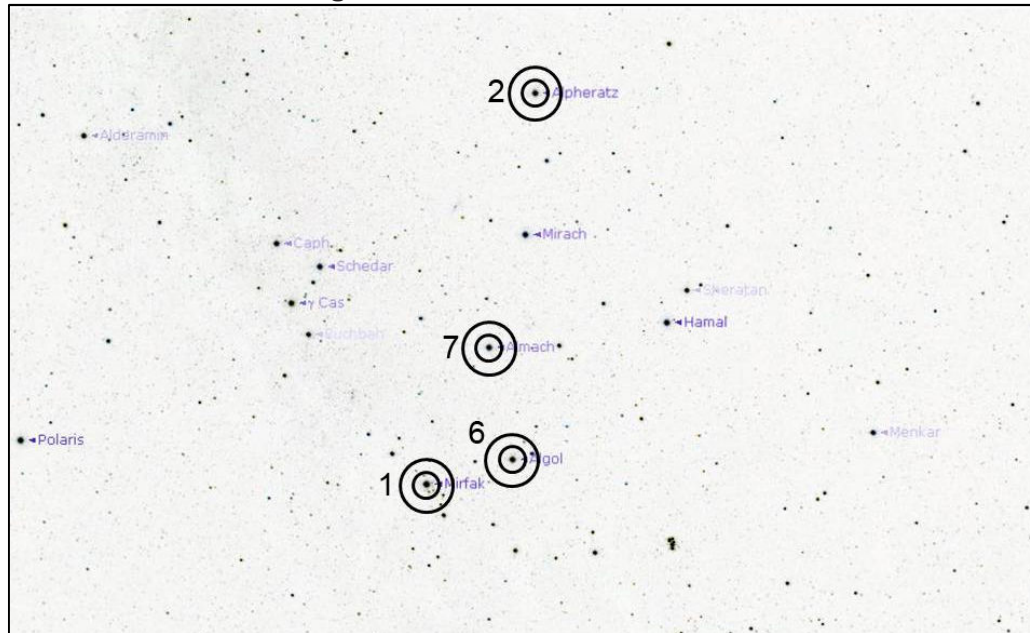




Solutions and Marking Scheme

Solution 1:

Figure 2 – Solution of Problem 1





Marking Scheme:

Part 1: Location of each bright star:

- A) Small Circle + Correct Number: +10 points.
- B) Large Circle+ Correct Number: +5 Points.
- C) Small Circle without Identifier Number : +5 Points
- D) Large Circle without Identifier Number: 0 Point.
- E) Small or Large Circle+ Incorrect Identifier Number: 0 Point.

Solution 2:

Part 1:

Table 2

Angular Distance	
Stars Name	Angular Distance (Degree)
1 (Errai) and 2 (Alfirk)	$11^{\circ}:09':10'' \sim 11^{\circ}$
1 (Errai) and 3 (Alderamin)	$18^{\circ}:36':50'' \sim 19^{\circ}$

Marking Scheme:

Part 1: Δ = Error in estimation of angular distance.

- $\Delta \leq 2^{\circ}$: 20 points
- $2^{\circ} < \Delta \leq 4^{\circ}$: 10 Points
- $\Delta > 4^{\circ}$: 0 Point

Part 2:

Table 4

Magnitude Estimation		
Number	Star Name	Visible Magnitude
2	Alfirk	3.2
3	Alderamin	2.4

For Each Star:

$\Delta m \leq 0.2$	: 20 points
$0.2 < \Delta m \leq 0.5$	: 15 Points
$0.5 < \Delta m \leq 0.8$	: 10 Points
$0.8 < \Delta m \leq 1.0$	: 5 Points
$1.0 < \Delta m \leq 1.2$	: 2 Points
$\Delta m > 1.2$	: 0 Point

Solution 3:

Coordinate of Selected Star				Local Time :
Star	Hour Angle	R.A.	Dec.	Sidereal Time :
Deneb (Alpha Cygni)	ST-RA	20h 41m	+45°	
Alfirk (Beta Cephei)	ST-RA	21h 28m	+71°	
Algol (Beta Persei)	RA-ST	03h 08m	+41°	
Capella (Alpha Aurigae)	RA-ST	05h 18m	+46°	