

Night Observation Q1 – Little Dolphin

Marking scheme :

On Drawing 1 :

Draw as the view of the constellation Delfinus (Del) through the finder scope.	
all 4 stars of the parallelogram	[1]
the 'tail'	[1]
correct scale	[1]
correct shape	[1]
additional field stars	[1]

With an arrow, mark the apparent direction of motion of the stars across the field of view of the finder scope caused by the rotation of the Earth. [2]

Label the stars with the Bayer designations given on the map (α , β , γ , δ and ϵ). [1]

Also label the brightest of these 5 stars " $m_{\max}$ ". [1]

Also label the faintest of these 5 stars " $m_{\min}$ ". [1]

On Drawing 2 :

Draw the view of the Little Dolphin through the larger telescope.	
all 4 stars of the parallelogram	[4]
the 'tail'	[1]
correct scale	[1]
correct shape	[1]
additional field stars	[1]

With an arrow, mark the apparent direction of motion of the stars across the field of view of the finder scope caused by the rotation of the Earth. [2]

Label the stars of the Little Dolphin α' , β' , γ' , δ' and ϵ' such that they match the labels of the stars in the constellation Delfinus as given on the map. [3]

Label the brightest of these stars " $m_{\max}$ ". [2]

Total [25]

Night Observation – Q2 Measuring Declination

Marking scheme:

Draw of field of view (any stars)

- if picture present position of S1, S2, Sx stars [3]
- if there is more stars presented on attached maps [1]
- mark North directions on picture of FoV [1]
- mark East directions on picture of FoV [1]

Proper method of observations:

- if cross is parallel to N-S and E-W [0]
- and total score will be calculated from previous points

- cross twisted from N-S and E-W direction [2]
- proper position angle of cross corresponding to formula used for calculations [4]

If student will need make a measurements in two or more different position angle they will receive 4 points if all of them will be corrected

- Proper formula for δ_x calculation [6]

- several repetitions of stopwatch measuring. [3]

or

- if student will give any subjective estimation of time measuring [2]
- (from watching the transit of star under cross etc.)

- Proper calculation for δ_x calculation [2]

- proper estimations of final error [2]