**OBSERVATIONAL EXAM – 1ST NIGHT - SOLUTIONS**

1 – Telescope already pointed to that region (or not?) (5minutes)

Answer: **24,0 arc minutes** (0.4°). We will tolerate up to 10% error as correct answer. Error between 10 to 20% will be considered 70% correct.

2 – Exact answer is **magnitude 7.9** but we will assume values between 7.7 – 8.1 as correct (0.2 magnitude tolerance). Values between 7.5 – 7.7 or 8.1 – 8.3 will be considered as 70% correct. (5 minutes)

3 - (5 minutes)

Brighter: White/blue ( ) Yellow ( **X** ) Red ( ) **(K0III)**

Dimmer: White/blue ( **X** ) Yellow ( ) Red ( ) **(B9IV)**

If the student is not able to point to the star the evaluator will do so, but student loses half of the points.

4 – Targets pointed by the evaluator will be M22, M8, M7 and M57. Student will have 30 seconds to evaluate each target.

Object 1 (M22) ( **GC** ) Object 3 (M7): ( **OC** )

Object 2 (M57) ( **PN** ): Object 4 (M8) ( **EN** )

5 – Students will have 3 minutes to complete this task.