

# Objective Questions for GCSE Astronomy - Sample 1 Stars and Galaxies

These ten questions are taken from the set of 240 objective questions from Mickledore Publishing's Objective Questions for GCSE Astronomy (available as a complete set on CD-ROM with unlimited site licence priced £15)

1. To which bright star do the three stars in Orion's belt point to the right?

- A Aldebaran      B Arcturus      C Polaris      D Sirius

2. To which bright star do the three stars in the 'handle' of The Plough lead?

- A Aldebaran      B Arcturus      C Polaris      D Sirius

3. Some stars are *circumpolar*. Whether a given star is circumpolar or not depends on

- A the declination of Polaris  
B the latitude of the observer  
C the longitude of the observer  
D the right ascension of the star

4. For a star of declination  $\delta$ , what is the condition for it to be circumpolar from latitude  $\phi$ ?

- A  $\delta - \phi \geq 90^0$   
B  $\phi - \delta \geq 90^0$   
C  $\delta + \phi \leq 90^0$   
D  $\delta + \phi \geq 90^0$

5. Which constellation is circumpolar from the British Isles?

- A Cassiopeia      B Leo      C Orion      D Pegasus

6. What is the smallest angular distance of a star of declination  $+73^0$  from the northern horizon of an observer at latitude  $50^0\text{N}$ ?

- A  $17^0$       B  $23^0$       C  $33^0$       D  $47^0$

7. At its lowest point in the sky, a star is  $32^{\circ}$  above the northern horizon to an observer at latitude  $47^{\circ}\text{N}$ . What is the star's declination?
- A  $+15^{\circ}$       B  $+58^{\circ}$       C  $+75^{\circ}$       D  $+79^{\circ}$
8. Two stars differ in their apparent magnitude by 2.0. By how many times is one star brighter than the other?
- A 2.5      B 6.25      C 16      D 40
9. Stars  $\alpha$  and  $\epsilon$  differ in brightness by exactly 3 magnitudes. How many times does  $\alpha$  appear brighter than  $\epsilon$ ?
- A  $2^3$       B  $2.5^3$       C  $3^3$       D  $10^3$
10. Two stars,  $\alpha$  and  $\gamma$  have apparent magnitudes 1.3 and 3.3 respectively.
- How many times is star  $\alpha$  brighter than  $\gamma$ ?
- A 2      B 2.5      C 6.25      D 16

## Solutions:

- |   |   |    |   |
|---|---|----|---|
| 1 | A | 6  | C |
| 2 | B | 7  | C |
| 3 | B | 8  | B |
| 4 | D | 9  | B |
| 5 | A | 10 | C |

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