

Team Number: _____

Score:

Team Name: _____

NSO Astronomy C **Annotated 2015 Sample Test** – Answer Key Section A

1. (A) protoplanetary, debris (B) 22
2. (A) Gliese 229B, 7 (B) Wise 1049-5319, 3
3. (A) FU Orionis (B) in-falling material (change in gravitational potential energy) and/or magnetic reconnection events (C) 6,27
4. A and B
5. Herbig Ae/Be, FU Orionis, T Tauri
6. (A) HR 8799 (B) direct imaging
7. (A) 8,14,18,24,25 (B) transit photometry or radial velocity
8. (A) radial velocity (B) Doppler effect
9. (A) GJ 1214b, 9 (B) water world/ steamy, clouds
10. (A) TW Hyd (B) 21
11. (A) transmission/emission spectrum (B) composition of atmosphere
12. (A) N159/Papillon, 10 (B) 2 very massive newly formed/forming stars
13. (A) T Tauri (B) 19
14. (A) Beta Pictoris, 1 (B) Fomalhaut, 16
(C) Fomalhaut
15. CoRoT2/CoRoT 2b, 8
16. Kepler 7, 25
17. (A) global temperature map (B) HD 189733b
(C) 18,24
18. HD 209458b, 14
19. Gliese 229B, Beta Pictoris, HR 8799, Fomalhaut
20. 4,15,2,17,16

Score:

Team Number: _____

Team Name: _____

NSO Astronomy C **Annotated 2015 Sample Test** – Answer Key Section B

21. (A) W (B) no hydrogen to helium fusion

22. (A) Herbig Ae/Be protostars (B) R

23. A and B

24. (A) transit timing (B) the size of the planet

(C) the size of the star

25. A stays the same, and B gets deeper

26. (A) 32,31,28 (B) 32

27. (A) transmission spectrum (B) super Earth

(C) P (D) B

28. (A) none (B) has an atmosphere/haze

29. (A) radial velocity (B) wavelength, velocity, speed of light (λ, v, C)

(C) the wobble of the parent star

30. (A) easier, the exoplanet would block all the light from the smaller object (white dwarf)

(B) if the exoplanet avoids engulfment while in the red giant stage of the parent star is the most probably answer, however, **accept any answer to this question as long as it has been answered.**