ANSWERS to PRACTICE EXAM #2

1. E (all of the above)
2. A (the Moon)
3. C (retrograde motion)
4. B (circular motion not at constant speed)
5. C (4 minutes less than 24 hours)

6. 'C' is the expected answer, based on the discussion in the textbook; but 'D' also could work (explain!)
7. B (24 hours)
8. F (stars do not orbit the Earth in heliocentric model)
9. B (orbit of Venus is smaller in size than the Earth's orbit)

10. D (phases of Venus)
11. E (Galileo did not discover any new planets)

12. A (13 months)
13. C (13 years) – use "beat period" formula to derive this answer; see Day13 slides and accompanying "practice" problems from class date 22 February.
14. C (10 years) – use "beat period" formula to derive this answer; see Day13 slides and accompanying "practice" problems from class date 22 February.
15. D (4 AU) – note, also, that the sidereal orbital period is 8 years.

16. D (70 mph)
17. C (20π mph = 63 mph)
18. D (all of the above)
19. B ('cat' has the larger orbit)
20. B ('cat' has the longer orbital period)

21. C ('puppy' is one-fourth as far from the central star as 'cat')

Table 1

Planet	P (years)	a (AU)
Venus	0.615	0.72
Earth	1.000	1.000
Mars	1.88	1.52
Jupiter	11.9	5.2
Saturn	29.5	9.55

Table 2

Spacecrafts orbiting Sun	P (years)	a (AU)
Explorer	0.0316	0.100
Home	1.000	1.000
Discovery	8	4.
Columbia	164	30.
Atlantis	1000	100.

Table 3

Spacecrafts orbiting Sun	P	a ($R_\oplus$)
EH-1	1.5 hours	1.00
EH-2	10 hours	3.54
EH-3	24 hours	6.35
EH-4	1 day	6.35
EH-5	30 days	61