

12. (1pt) Without dust, the nebular theory for the solar system had trouble explaining _____.
- (a) CCW orbits of planets (b) coplanar orbits of planets (c) a star at the center
(d) how the gas could begin clumping together (e) the rotation of the Sun
13. (1pt) The flattening of the solar nebula and its increase in spin during collapse are related to the conservation of _____.
- (a) energy (b) momentum (c) angular momentum (d) mass (e) spin
14. (1pt) The terrestrial planets tend to be made out of high-melting point materials, while the Jovian planets contain mostly gases and low-melting point materials. This is a prediction of _____.
- (a) special relativity
(b) Rene Descartes
(c) the condensation sequence
(d) the nebular hypothesis
(e) Laplace
15. The age of the solar system, as measured by radioactive dating of the oldest meteorites, is _____ years.
- (a) 4.6 billion (b) 12 billion (c) 4.5 million (d) 12 thousand (e) 46 billion

Questions on Ch. 7, Planet Earth

16. Which layer of the Earth's atmosphere contains most of its mass?
- (a) troposphere (b) lithosphere (c) mesosphere (d) stratosphere
(e) ionosphere
17. Which layer of the Earth's atmosphere contains most of the clouds and weather?
- (a) troposphere (b) lithosphere (c) mesosphere (d) stratosphere
(e) ionosphere
18. The fraction of the Earth's atmosphere that is made up of CO₂ is _____
- (a) in-between that on Venus and Mars (b) lower than that on Venus and Mars (c) higher than on Venus and Mars
(d) steadily decreasing (e) over 99%
19. The _____, which extends far above the ionosphere, helps protect us from energetic charged particles from space (cosmic rays).
20. (1pt) The Earth's core is subdivided into _____ parts. (Note: "core" not "interior".)
- (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
21. (1pt) The color of the rainbow that is scattered most effectively by air molecules is _____.
- (a) red (b) orange (c) yellow (d) green (e) violet

22. The best way to reveal the outlines of crustal plates on the Earth is a map of _____.
- (a) the continents (b) earthquake epicenters (c) islands (d) the oceans (e) lines of latitude
23. Which property is unique to the Earth among the terrestrial planets.
- (a) clouds (b) the greenhouse effect (c) a dense core (d) plate tectonics (e) volcanos
24. The type of seismic wave which can propagate through the Earth's mantle but NOT through the liquid core is the _____
- (a) P wave (b) S wave (c) L wave (d) sine wave (e) N wave
25. Which type of seismic wave can not penetrate through the outer core? _____
26. The analysis of seismic waves has shown us that the Earth _____
- (a) is rotating
(b) has a creamy, caramel center
(c) has a liquid inner core
(d) has a liquid outer core
(e) has a magnetic inner core
27. The driving force behind plate tectonics is thought to be _____ in the Earth's mantle.
- (a) radioactivity (b) rotation (c) convection (d) differentiation (e) flooding
28. If we trace the Earth's continental drift backward in time for 200 million years, we find _____
- (a) no change from today (b) one large continent, dubbed Pangaea (c) no mountain chains (d) the oceans are much smaller (e) a time when the crust was molten
29. The stage of planetary development which involves the sinking of dense material to the core is called _____
- (a) differentiation (b) cratering (c) flooding (d) slow surface erosion (e) weathering

From Ch.16 (The Sun): See the previous review questions for questions on The

Sun.