

None!

Set 1 — Solar System Data

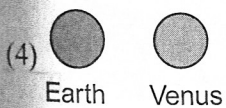
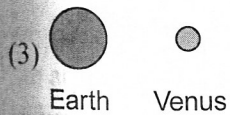
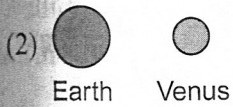
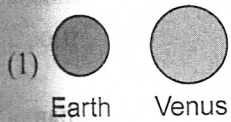
1. Which planet is approximately 20 times farther from the Sun than Earth is?

- (1) Jupiter            (3) Uranus
- (2) Saturn            (4) Neptune      1 \_\_\_\_\_

2. Which planet would float if it could be placed in water?

- (1) Mercury        (3) Saturn
- (2) Earth            (4) Jupiter        2 \_\_\_\_\_

3. Which scale diagram best compares the size of Earth with the size of Venus?



3 \_\_\_\_\_

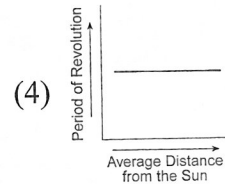
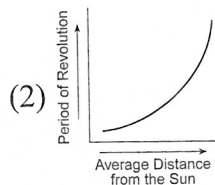
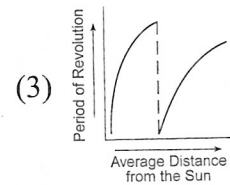
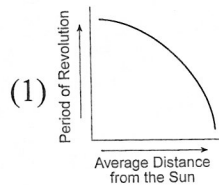
4. Which planet's orbit around the Sun is most nearly circular?

- (1) Mercury        (3) Earth
- (2) Neptune        (4) Venus        4 \_\_\_\_\_

5. How do Jupiter's density and period of rotation compare to Earth's?

- (1) Jupiter is less dense and has a longer period of rotation.
- (2) Jupiter is less dense and has a shorter period of rotation.
- (3) Jupiter is more dense and has a longer period of rotation.
- (4) Jupiter is more dense and has a shorter period of rotation.    5 \_\_\_\_\_

6. Which graph best represents the relationship between a planet's average distance from the Sun and the time the planet takes to revolve around the Sun?



6 \_\_\_\_\_

7. Terrestrial planets move more rapidly in their orbits than the Jovian planets because terrestrial planets are

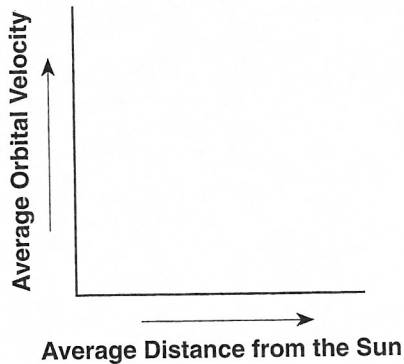
- (1) rotating on a tilted axis
- (2) more dense
- (3) more massive
- (4) closer to the Sun            7 \_\_\_\_\_

Base your answers to question 16 on the accompanying data table, which shows the average distance from the Sun, the average surface temperature, and the average orbital velocity for each planet in our solar system.

Data Table

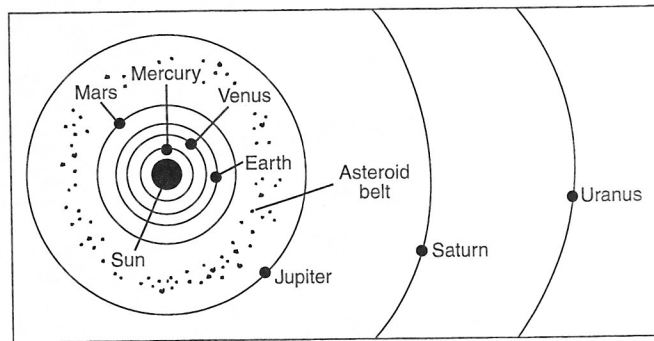
Planet	Average Distance from Sun (millions of km)	Average Surface Temperature (°C)	Average Orbital Velocity (km/sec)
Mercury	58	167	47.9
Venus	108	457	35.0
Earth	150	14	29.8
Mars	228	-55	24.1
Jupiter	778	-153	13.1
Saturn	1427	-185	9.7
Uranus	2869	-214	6.8
Neptune	4496	-225	5.4

16. On the graph below, draw a line to indicate the general relationship between a planet's average distance from the Sun and its average orbital velocity.



Base your answer to question 17 on the accompanying diagram. This diagram shows a portion of the solar system.

17. What is the average distance, in millions of kilometers, from the Sun to the asteroid belt? \_\_\_\_\_



(Not drawn to scale)

Base your answers to questions 18a and b on the accompanying data table, which provides information about four of Jupiter's moons.

Data Table

Moons of Jupiter	Density (g/cm <sup>3</sup> )	Diameter (km)	Distance from Jupiter (km)
Io	3.5	3630	421,600
Europa	3.0	3138	670,900
Ganymede	1.9	5262	1,070,000
Callisto	1.9	4800	1,883,000

18. a) Identify the planet in our solar system that is closest in diameter to Callisto.

\_\_\_\_\_

- b) In 1610, Galileo was the first person to observe, with the aid of a telescope, these four moons orbiting Jupiter. Explain why Galileo's observation of this motion did not support the geocentric model of our solar system.

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## Set 2 — Solar System Data

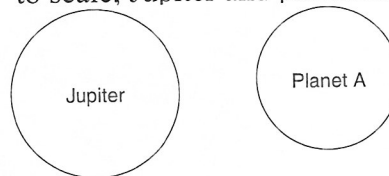
8. Which of the following planets has the lowest average density?
- (1) Mercury      (3) Earth  
 (2) Venus        (4) Mars                      8 \_\_\_\_\_

9. Which statement correctly compares the size, composition, and density of Neptune to Earth?
- (1) Neptune is smaller, more gaseous, and less dense.  
 (2) Neptune is larger, more gaseous, and less dense.  
 (3) Neptune is smaller, more solid, and more dense.  
 (4) Neptune is larger, more solid, and more dense.                      9 \_\_\_\_\_

10. Compared to Mars, Mercury moves more rapidly in its orbit because Mercury
- (1) is larger  
 (2) is more dense  
 (3) is closer to the Sun  
 (4) has a more elliptical orbit                      10 \_\_\_\_\_

11. The planets known as “gas giants” include Jupiter, Uranus, and
- (1) Venus              (3) Mars  
 (2) Saturn            (4) Earth                      11 \_\_\_\_\_

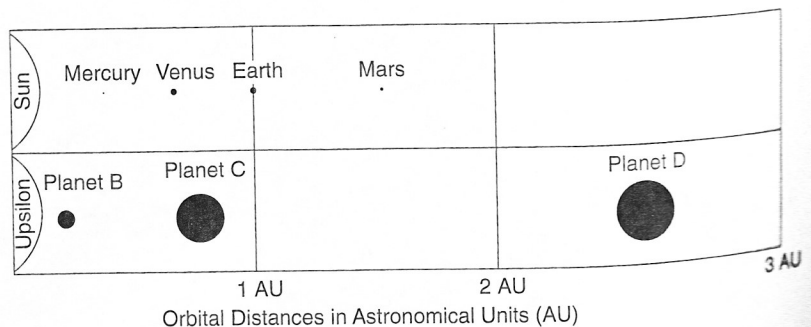
12. The diagram below represents two planets in our solar system drawn to scale, Jupiter and planet *A*.



- Planet *A* most likely represents
- (1) Earth              (3) Saturn  
 (2) Venus            (4) Uranus                      12 \_\_\_\_\_

13. The same side of the Moon always faces Earth because the
- (1) Moon’s period of rotation is longer than its period of revolution around Earth  
 (2) Moon’s period of rotation is shorter than its period of revolution around Earth  
 (3) Moon rotates once as it completes one revolution around Earth  
 (4) Moon does not rotate as it completes one revolution around Earth                      13 \_\_\_\_\_

14. Planet *D*’s diameter is 10 times greater than Earth’s diameter.
- What planet in our solar system has a diameter closest in size to the diameter of planet *D*?



15. Why does Planet *B* revolve faster than Planet *C*? \_\_\_\_\_