20. The author's attitude toward Daniel Boone in the passage can be best described as_____.

A. admiring B. critical

C. admonishing D. indifferent

PASSAGE 3 – Questions 21-30

The Solar System, as we know it, contains over 178 objects which revolve around our central star, or the Sun. Some of these objects can be seen from Earth with the unaided eye or an earth-based telescope, but the majority have only been detected through the development of instruments such as the Hubble Space Telescope, or unmanned probes like Voyager. These instruments operate outside Earth's atmosphere collecting information on the **composition** and behavior of objects in the Solar System, which has enabled researchers to hypothesize their origins.

[A] It is generally thought that a cloud of interstellar gas and dust known as a 'nebula', was **disturbed** by some major event in space, possibly a supernova, about five billion years ago and began to collapse under its own gravity, forming a cloud. **[B]** The center of the cloud became so hot that it eventually exploded into a star with the cooler gases flowing around it. **[C]** In time, the gases condensed into dust, metals, and various kinds of ice in the cold outer reaches of space. **[D]** These solid particles collided with each other to form larger objects, or asteroids, as they continued to spin around our central star.

As these asteroids increased in size, their gravity began to pull in all the material in their immediate surroundings, and the largest of these went on to become planets. **The very different composition of the inner planets (Mercury, Venus, Earth and Mars) and the outer planets (Jupiter, Saturn, Neptune and Uranus) has led astronomers to hypothesize that their distances from the Sun caused them to develop at different rates and in different ways.** According to the most widely-held opinions, the planets closest to the Sun, where all the ice particles were vaporized due to the incredible heat, were formed mostly of rock, silicates, and metals with high melting points. These particles collided and were pulled together by gravity. These inner planets have thin atmospheres or none at all, and few, if any, satellites, which would indicate that most of the available material was either pulled into their own gravity or burned away in the heat of the Sun.

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The inner and outer planets are separated by an asteroid belt, consisting of material that was not able to form into planets due to Jupiter's immense gravity. Beyond this area, as more dust and ice particles escaped destruction by the Sun, four larger planets formed over a longer period of time in a far colder environment as material was thrown out from the center by the spinning star's centrifugal force. About a million years after the cooling of the original nebula, the Sun began to emit a stream of charged protons and electrons known as solar wind which blew the remaining gases outwards, to be sucked in by the outer planets which became gas giants. These planets attracted many objects in their vast gravity fields, some of which are big enough to be termed 'satellites', and countless smaller fragments which formed rings around the planets.

The discovery of more objects in the Solar System in recent times has led to the need for further classification. Far beyond the outer planets lies **Pluto**, which was originally considered to be the ninth planet, but which has since been found to be a binary system of two dwarf planets, the other being Charon. Pluto's origins may be in the recently discovered Kuiper Belt, the source of many of the comets which travel through the Solar System. This theory is based on Pluto's rock/ice composition which is similar to that of a comet. At one time, also thought to be a moon of Neptune, Pluto/Charon was reclassified in 2006 as one of three dwarf planets discovered so far, the others being Eris and Ceres.

Scientific knowledge is only as good as the ability of scientists to collect evidence, so as new advances are made in astronomy, the present theories may be disproved, as in the case of Pluto. The above account represents the consensus of current opinions on the matter.

21. In paragraph 1, what does the author say about the role of the Hubble Space Telescope?

A. It is too defective for our scientists to come up with definite answers to the origin of the universe.

B. Scientists discovered billions of new planets by combining measurements from the Hubble Space Telescope with Voyager measurements.

C. It solved the age of the universe and measured the age of what may be the youngest galaxy ever seen in the universe.

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D. It has helped unveil many mysteries or queries about our universe.

22. The word "composition" in the passage is closest in meaning to_____.

A. make-up B. musical

C. evolution D. revolution

23. The word "disturbed" in the passage is closest in meaning to_____.

A. broken B. attracted

C. bothered D. imported

24. Which of the following best expresses the essential information in the highlighted sentence in the passage? Incorrect answer choices change the meaning in important ways or leave out essential information.

A. Planets formed from gases and dust particles after comets collided with the Sun.

B. According to scientists, the manner in which planets developed was wholly dependent on their distance from Jupiter's rings.

C. The dissimilar make-up of the planets closest to the Sun and those farthest from the Sun suggests that their distance from the Sun affected their formation.

D. Scientists believe the Sun evolved from the composition of several older planets in the solar system.

25. According to paragraph 4, the inner and outer planets are separated by what?

A. An asteroid belt b. A star

C. Comets d. A moon

26. According to the passage, all of the following are true about our solar system EXCEPT_____.

A. Planets nearest the Sun were formed mostly of rock.

B. There continue to be new discoveries as technology improves.

C. Colliding asteroids eventually formed planets.

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D. Most of the comets in the solar system can be seen with the naked eye during an annular solar eclipse.

27. Why does the author mention "Pluto" in paragraph 5?

A. To discuss Pluto's rock/ice composition

B. To introduce the concept of planet formation

C. To show that new discoveries are always occurring

D. To introduce the distinction between planets and dwarf planets

28. It can be inferred from the passage that the planets_____.

A. broke off from the rapidly spinning Moon

B. collided more frequently, to spur the formation and growth of protoplanets

C. were initially asteroids

D. were formed by the collision of massive objects circling a black hole in eccentric orbits

29. According to the passage, what were the universe's origins?

A. A nebula collapsed under its gravity.

B. A black hole exploded and merged to create the universe.

C. A super being wished it into existence.

D. The Sun collapsed in on itself.

30. Look at the four squares [_] that indicate where the following sentence could be added to the passage.

This cloud began to rotate rapidly as it got smaller and denser and heated up to several thousand degrees, causing some of its elements to vaporize into gas.

Where would the sentence best fit?

A. [A] B. [B]

C. [C] D. [D]

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