MODULE 1

1. Building additional road capacity may seem like an obvious solution to traffic congestion, but numerous studies have cast doubt on the _____ of that approach. Not only does additional road capacity often fail to relieve congestion, but it can also make traffic worse by encouraging more people to drive.

   Which choice completes the text with the most logical and precise word or phrase?

   A. Efficacy
   B. Aesthetics
   C. Originality
   D. Popularity

2. Though many _____ studies of the effect of altitude on blood chemistry focus on people who live above sea level, researchers Suleiman A. Al- Sweedan and Moath Alhaj recently chose the novel path of focusing on people who live below sea level, in locations such as the California towns of Bombay Beach and Imperial.

   Which choice completes the text with the most logical and precise word or phrase?

   A. Eccentric
   B. Traditional
   C. Meager
   D. Random

3. Whatever the general attitude toward Spike Lee's 1992 film *Malcolm X* and Carl Franklin's 1995 film *Devil in a Blue Dress* when they were initially released, both films now tend to be regarded quite _____. In 2018, for example, critics for the *New York Times* praised the former as "electrifying" and the latter as "picture-perfect."

   Which choice completes the text with the most logical and precise word or phrase?

   A. Strangely
   B. Neutrally
   C. Skeptically
   D. Favorably

4. At the turn of the twentieth century, Black residents of Richmond, Virginia, had few formal options for banking and other financial services. To _____ this situation, Maggie Lena Walker chartered the St. Luke Penny Savings Bank in 1903. The bank went on to provide home loans and savings opportunities to thousands of Black families over the following decades.

   Which choice completes the text with the most logical and precise word or phrase?

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A. Retain
B. Highlight
C. Prolong
D. Rectify

5. The Gleaners, painted in the realist style by Jean-François Millet, depicts peasants picking stray wheat from a field after the harvest. The realists' emphasis on accurately portraying the experiences of average working people was largely a rejection of the romantic style evident in many paintings by Horace Vernet, which instead _____ their subjects' beauty or heroism while hiding all imperfection.

   Which choice completes the text with the most logical and precise word or phrase?

   A. Counteract
   B. Obscure
   C. Rectify
   D. Accentuate

6. The following text is from Maria Amparo Ruiz de Burton's 1885 novel The Squatter and the Don. In the novel, Clarence and Mercedes develop a romantic relationship.

Mercedes, being not quite seventeen, her grief at parting from Clarence was wild, vehement and all-absorbing. But she had been trained to obedience, and her battles with the spirit always took place after she carefully locked her bedroom door. Then Clarence was wildly apostrophized, and a torrent of tears relieved the overcharged, aching heart.

Which choice best states the main purpose of the text?

A. It emphasizes Mercedes's extreme insecurity
B. It suggests that the magnitude of Mercedes's feelings are unusual for her age
   a. It provides background explaining why Clarence has left Mercedes
C. It conveys how Mercedes handles her intense feelings about being separated from Clarence

7. In 2023 literary scholar Jeremy Douglass cautioned technology investors and enthusiasts who predict conventional books' ultimate displacement by newer forms of media. Douglass observed that the concept of an "interactive" text is much older than technologists assume, extending back to the first time readers scratched notes into a text's margins. In addition, newer media, such as video games, haven't replaced older forms of entertainment, such as comic books, but rather exist alongside them. Douglass believes that rather than supplanting books, technology is simply making new forms of expression possible.

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Which choice best describes the function of the underlined portion in the text as a whole?

A. It explains the basis for the claim made by the technologists mentioned in the text.
B. It suggests that academics are better suited than investors to see the potential uses of contemporary interactive texts.
C. It challenges the stance of the investors and enthusiasts who are mentioned earlier in the text.
D. It provides a historical anecdote about the technological challenges involved in reading the earliest interactive texts.

8. Businesses selling clothing and other fashion items face obstacles in trying to forecast how much product to order: tastes and styles change quickly, while manufacturing clothing takes a significant amount of time. Researchers Youran Fu and Marshall Fisher have found that combining sellers' own data with information gathered from social media can dramatically improve the accuracy of such forecasts by 24 to 57 percent in the cases they directly studied. Better predictions mean demand is easier to meet without retailers becoming overstocked.

Which choice best states the main idea of the text?

A. Becoming overstocked is the main preoccupation of sellers trying to forecast demand for fashion items.
B. Social media is revolutionizing how both sellers and researchers view the fashion industry.
C. Using multiple data sources can enhance the ability of sellers in the fashion industry to anticipate demand.
D. Retailers can use their own data to accurately predict how tastes and styles are evolving.

9. Women like Grace Murray Hopper made important early contributions to the history of US cryptology, a field concerned with secure data communication and storage. Hopper was a US naval admiral and computer scientist who coined the term "debugging" and invented the first compiler program for translating computer code. In this way, Hopper and others like her helped make it possible for more women-such as Anna Lysyanskaya, who currently works in and teaches digital cryptography to enter the field of cryptology.

According to the text, what is one similarity between Hopper and Lysyanskaya?

A. They both founded organizations that encourage women to pursue careers in cryptology.
B. They both have contributed to the field of cryptology.
C. They both have worked in the field of history.
D. They both have argued that more US schools should teach the history of cryptology

10. The following text is from Jerome K. Jerome's 1889 novel Three Men in a Boat (To Say Nothing of the Dog).

The narrator and two friends are taking a boat down the River Thames in England.

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In a boat, I have always noticed that it is the fixed idea of each member of the crew that he is doing everything. Harris's notion was, that it was he alone who had been working, and that both George and I had been imposing upon him. George, on the other hand, ridiculed the idea of Harris's having done anything more than eat and sleep, and had a cast- iron opinion that it was he-George himself-who had done all the labour worth speaking of.

Which choice best states the main idea of the text?

A. The narrator recognizes that Harris's and George's attitudes are typical of how crew members view their own contributions on boats.
B. The narrator has recognized that Harris spends most of his time eating and sleeping.
C. Everyone in the group has been given tasks to do, hut the narrator hasn't been willing to complete this.
D. The amount of work that needs to be done on the boat is likely more than the narrator, George, and Harris can handle.

11. Total Areas of Five Tribal Nations around the United States

Tribal nation	Location	Area (square miles)
Crow Tribe	Monata	3,606
White Earth Nation	Minnesota	1,167
Tohono O'odham Nation	Arizona	4,453
Choctaw	Oklahoma	10,864
Yakama Nation	Washington	2,188

In terms of total area, the Choctaw Nation is one of the largest tribal nations in the United States. It covers 10,864 square miles in what is now southeastern Oklahoma. In comparison, the total area of White Earth Nation in Minnesota is only _____

A. 1,167 square miles
B. 4,453 square miles
C. 3,606 square miles
D. 2,188 square miles

12. Pyramids in Egypt and the Americas

Pyramid	Country	Height (meters)	Age (years before present)
The Great Pyramid	Mexico	33	2,050 to 2,400
The Pyramid of Djoser	Egypt	60	4,600 to 4,700
The Pyramid of Sahure	Egypt	47	4,400 to 4,500
El Castillo	Belize	40	1,100 to 1,400

A student is writing an essay about four pyramids for a history class and wants to note how long ago each pyramid was built. Consulting the table, the student finds that el Castillo was built _____

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Which choice most effectively uses data from the table to complete the text?

A. 4,400 to 4,500 years ago
B. 4,600 to 4,700 years ago
C. 1,100 to 1,400 years ago
D. 2,050 to 2,400 years ago

13. "A Pair of Silk Stockings" is an 1897 short story written by Kate Chopin. In describing the character of Mrs. Sommers, Chopin emphasizes the uniqueness of Mrs. Sommers's perspective: _____

Which quotation from "A Pair of Silk Stockings" most effectively illustrates the claim?

A. "For a day or two she walked about apparently in a dreamy state, but really absorbed in speculation and calculation."
B. "She had no time, no second of time to devote to the past. The needs of the present absorbed her faculty."
C. "It is safe to say there was no one present who bore quite the attitude which Mrs. Sommers did to her surroundings. She gathered in the whole-stage and players and people in one wide impression, and absorbed it and enjoyed it."
D. "She wanted an excellent and stylish fit, she told the young fellow who served her, and she did not mind the difference of a dollar or two more in the price so long as she got what she desired."

14. Properties of Select Rotating Radio Transients

Name	Right ascension (hours)	Period (seconds)	Frequency (hertz)
J0545-03	5:45	1.074	0.931
J1654-2335	16:54:03	0.545	1.834
J0103+54	1:03:37	0.354	2.822
J0121+53	1:21	2.725	0.367
J0614-03	6:15	0.136	7.353

A student is researching rotating radio transients (RRATs), a subclass of pulsar stars characterized by short pulses of radio waves. The time between consecutive pulses of an RRAT is referred to as a period. Looking at the table, the student determines that _____.

Which choice most effectively uses data from the table to complete the statement?

A. 10545-03 and J0121+53 have the same amount of time between consecutive pulses.
B. J0103+54 and J0121+53 both have more than one second of time between consecutive pulses.
C. 10614-03 has the shortest amount of time between consecutive pulses of all the RRATs in the table.
D. J1654-2335 has the longest amount of time between consecutive pulses of all the RRATs in the table.

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15. Tarawa, with a population of roughly 30,000 people, _____ home to an impressive 29 percent of Kiribati's total population.

    Which choice completes the text so that it conforms to the conventions of Standard English?

    A. are
    B. are being
    C. is
    D. have been

16. Featuring jagged peaks of black ink surrounded by hazy swirls of blue and green paint, Zhang Daqian's 1983 painting Panorama of Mount Lu is inspired by the tradition of *qinglü shanshui*, a type of Chinese landscape painting _____ by the use of blue and green hues to depict ethereal, otherworldly landscapes.

    Which choice completes the text so that it conforms to the conventions of Standard English?

    A. characterized
    B. is characterized
    C. has been characterized
    D. will be characterized

17. Nebraska governor _____ the first woman to serve in that role in the state's history took office on January 9, 1987.

    Which choice completes the text so that it conforms to the conventions of Standard English?

    A. Kay A. Orr-
    B. Kay A. Orr,
    C. Kay A. Orr
    D. Kay A. Orr:

18. In her work, Bay of Quinte Mohawk artist Hannah Claus uses suspended sculptural installations to explore themes such as time, place, and nature. The Eiteljorg Museum counts pieces by Claus in _____ impressive collection of Native artworks.

    Which choice completes the text so that it conforms to the conventions of Standard English?

    A. her
    B. it's
    C. its
    D. their

19. Sociologist Todd Gitlin co-opted the term "recombinant," normally used in reference to genetic engineering, to describe serialized television shows of the 1980s. Gitlin's use of the term referenced TV studios' practice of repackaging successful narrative formulas as new _____ even shows that varied only slightly from other shows still attracted sizeable audiences.

    Which choice completes the text so that it conforms to the conventions of Standard English?

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A. content, in that era,
B. content in that era,
C. content, in that era
D. content; in that era,

20. Kati Horna's 1938 photograph "Stairway to the Cathedral" is collected in the 2021 exhibition *The New-Woman Behind the* _____ works by artists from over twenty countries, the exhibition showcases the diverse, innovative, often aesthetically daring work of female photographers from the 1920s through the 1950s.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. *Camera*, featuring
B. *Camera*. Featuring
C. *Camera* featuring
D. *Camera* and featuring

21. Australia ratified the Outer Space Treaty, an international agreement with over 100 signing nations tirat acts as the foundation for the laws of space, on January 27, 1967. Colombia signed the treaty; _____ it has yet to officially ratify it.

Which choice completes the text with the most logical transition?

A. however,
B. similarly,
C. specifically,
D. for example,

22. In her 2012 analysis of tree rings from Japan's Yaku Island, cosmic ray physicist Fusa Miyake noted an anomalous carbon-14 spike dating to 774- 775 CE, indicating that a massive burst of radiation reached Earth during that time. _____ this unprecedented radiocarbon surge was dubbed a "Miyake event" in honor of its discoverer.

Which choice completes the text with the most logical transition?

A. Fittingly,
B. Similarly,
C. However,
D. In other words,

23. The Coastal Virginia Offshore Wind project is anticipated to generate 2.6 gigawatts of energy, enough to power almost one million homes. As its name indicates, the project-currently in development-consists of wind turbines located off the Virginia coast. _____ the project plan calls for 176 large turbines to be placed at a site 27 miles east of Virginia Beach.

Which choice completes the text with the most logical transition?

A. In conclusion,

B. In contrast,
C. As a result,
D. To be exact,

24.

- Minor planets are astronomical objects that orbit the Sun but are neither planets nor comets.
- Astronomer Jane Luu has discovered many minor planets in her career
- Alongside colleague David C. Jewitt, she discovered the minor planet (15836) 1995 DA2 on February 24, 1995.
- Alongside colleagues David C. Jewitt, Chadwick Trujillo, and K. Berney, she discovered the minor planet (24952) 1997 QJ4 on August 28, 1997.

Which choice most effectively uses information from the given sentences to emphasize the discovery of (15836) 1995 DA2 to an audience already familiar with Jane Luu?

A. First there was the discovery of (15836) 1995 DA2 on February 24, 1995, and then on August 28, 1997, Jane Luu discovered yet another minor planet with the help of her colleagues David C. Jewitt, Chadwick Trujillo, and K. Berney.
B. Astronomer Jane Luu helped discover not only the minor planet (15836) 1995 DA2 on February 24, 1995, but also (24952) 1997 QJ4 on August 28, 1997.
C. Jane Luu is an astronomer famous for her discovery of many minor planets in our solar system, including (15836) 1995 DA2.
D. On February 24, 1995, Jane Luu and her colleague David C. Jewitt made the exciting discovery of the minor planet (15836) 1995 DA2.

25.

- Soo-Bong Kim is a South Korean particle physicist.
- Particle physicists study subatomic particles.
- Neutrinos are some of the least understood subatomic particles.
- Kim is known for his research on neutrino oscillations

Which choice most effectively uses information from the given sentences to specify what type of neutrino research Kim is known for?

A. Neutrinos are a type of subatomic particle that particle physicists are still trying to understand.
B. Soo-Bong Kim, whose research involves particle physics, is from South Korea.
C. In the ongoing pursuit to better understand these subatomic particles, particle physicist Soo-Bong Kim is known for his research on neutrino oscillations.
D. One scientist who has worked to advance our understanding of neutrinos is the South Korean particle physicist Soo-Bong Kim.

26. While researching a topic, a student has taken the following notes:

- The Museu de les Ciències Principe Felipe is in Valencia, Spain.
- It is home to a Foucault pendulum.
- Vasile Alecsandri National College is in Galați, Romania.
- It is home to a Foucault pendulum.

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- A Foucault pendulum dangles from a fixed point that ensures the swing path of the pendulum doesn't change.
- To an observer, the swing path of a Foucault pendulum appears to change over time because Earth rotates beneath it.

The student wants to emphasize a similarity between the two locations. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Because Earth rotates beneath it, the swing path of the Foucault pendulum at the Museu de les Ciències Príncipe Felipe appears to change over time.
B. The Museu de les Ciències Principe Felipe, which is home to a Foucault pendulum, is in Spain, not Romania.
C. The Museu de les Ciències Príncipe Felipe in Valencia, Spain, and Vasile Alecsandri National College in Galați, Romania, both house Foucault pendulums.
D. One Foucault pendulum is in Spain, and the other is in Romania.

27.

- The Music by Black Composers (MBC) project aims to inspire
- aspiring music students by archiving and sharing information about the music of Black classical composers.
- William Benjamin Cooper is a Black classical music composer included in MBC's Historic Composers Directory.
- He was born in 1920 and died in 1993.

Which choice most effectively uses information from the given sentences to set up a discussion of Cooper's career for an audience already familiar with the MBC project?

A. While William Benjamin Cooper is considered a great composer, there are many more such composers included in the MBC Historic Composers Directory.
B. The MBC project's Historic Composers Directory highlights Black classical composers of the past, such as William Benjamin Cooper (1920-1993), in order to inspire music students to become the classical composers of the future.
C. Among the many talented figures included in the MBC project is classical music composer William Benjamin Cooper.
D. Born in 1920, William Benjamin Cooper passed away in 1993, according to the MBC project.

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MODULE 2

1. The fossil remains of the individual known as LH 4, discovered in Tanzania in 1974, can help paleoanthropologists not only identify steps in the evolution of hominids but also _____ the Pliocene epoch generally, revealing important details about the time in which LH 4 lived.

   Which choice completes the text with the most logical and precise word or phrase?

   A. substitute
   B. imitate
   C. illuminate
   D. design

2. Before the Mariner 2 mission completed a successful flyby of Venus in 1962, astronomers' ideas about the planet were little more than _____. Venus's atmosphere is so thick that Earth-based observations have yielded very little information about the planet.

   Which choice completes the text with the most logical and precise word or phrase?

   A. conclusions
   B. summations
   C. conjectures
   D. exemplifications

3. The following text is adapted from Virginia Woolf's 1919 novel Night and Day. Katharine is the granddaughter of a celebrated poet.

   > [Katharine's] descent from a celebrated poet] was no surprise to her, but matter for satisfaction, until, as the years wore on, certain drawbacks made themselves vers manifest. Perhaps it is a little depressing to inherit not lands but an example of intellectual virtue; perhaps the conclusiveness of a great ancestor is a little discouraging to those who run the risk of comparison with him.

   As used in the text, what does the word "manifest" most nearly mean?

   A. Anticipated
   B. Particular
   C. Complex
   D. Evident

4. The work of Tobias Gerstenberg et al. on tracking eye movements supports a theory that people engage in _____ thinking when making causal judgments: when subjects were asked to look at two colliding billiard balls and judge whether one caused or prevented the other's movement through a gate, their eyes looked at where the target ball would have gone if the ball that altered its path did not exist.

   Which choice completes the text with the most logical and precise word or phrase?

   A. counterfactual
   B. analogical
   C. ambivalent

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D. associative

5. The following text is from Sarojini Naidu's 1896 poem "Alabaster."

Like this alabaster box whose art
Is frail as a cassia-flower, is my heart,
Carven with delicate dreams and wrought
With many subtle and exquisite thoughts.

Which choice best describes the function of the two underlined portions in the text as a whole?

A. They indicate potential reactions, one hoped for and one feared, to a decision the speaker considers throughout the text.
B. They provide examples, one literal and one figurative, of a change that the speaker describes throughout the text.
C. They describe the subjects, one physical and one abstract, of a comparison that extends throughout the text.
D. They symbolize two viewpoints, one cautious and one impulsive, that are contrasted throughout the text.

6. Like all species of baleen whales, the humpback whale feeds on tiny creatures known as krill by filtering water through bristlelike keratin structures called baleen plates. In this way, baleen whales can eat up to 30 percent of their total mass per day. And while no one would call the humpback whale small-it can have a mass as high as 30,000 kg-it is one of the smaller baleen whales and is much smaller than the northern right whale, which can weigh a whopping 80,000 kg and consume as much as 24,000 kg of krill per day.

Which choice best describes the overall structure of the text?

A. It describes a characteristic shared by all baleen whales and then illustrates a difference between the humpback whale and the northern right whale that is relevant to that characteristic.
B. It discusses a unique feature of the humpback whale and how the lack of that feature in the northern right whale explains differences in the two species' behavior.
C. It draws a distinction between the sizes of the humpback whale and the northern right whale and then presents a feature that they have in common.
D. It details a relationship between humpback and northern right whales and krill and then discusses an unexpected consequence of a change in baleen whale populations.

7. In what is now Washington state, the Tulalip Tribes operate the Hibulb Cultural Center. Relying on traditional knowledge to guide the design of exhibits, this institution presents Tulalip history and culture to the tribes' citizens. The Choctaw Nation, a tribe in Oklahoma, employs a similar strategy in its own cultural center. Both centers contrast with museums that aren't Indigenous-led; when displaying Indigenous artifacts, such museums tend to anticipate mainly non-Indigenous audiences and rely on Euro- centric strategies for designing exhibits.

Which choice best describes the function of the underlined portion in the text as a whole?

A. It elaborates on a claim made earlier in the sentence.
B. It addresses a potential criticism of a claim made earlier in the sentence.

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C. It defines a term used earlier in the sentence.
D. It acknowledges an exception to the general principle proposed earlier in the sentence.

8.

Text 1

A conservation group representing 11 tribal nations in the Great Lakes region reported to various state and federal natural resources agencies operating in the region that the firefly (waawaate in the Ojibwe language) will likely fare significantly worse than the black bear (makwa in Ojibwe) due to rising temperatures over the next 50 years. This collaborative approach has helped build trust between government and tribal groups, which will likely improve the quality of any joint conservation projects.

Text 2

State and federal natural resources agencies are increasingly incorporating traditional ecological knowledge from tribal groups in the agencies' plans to address threats to natural resources due to increasing temperatures. This approach has helped build positive relationships between tribal groups and these agencies and furthermore tends to lead to better conservation outcomes.

Based on the texts, both authors would most likely agree with which statement?

A. Natural resources conservation projects are likely to benefit from collaboration between tribal and government groups.
B. A collaborative approach to conservation is likely to help reduce the predicted temperature increases in the Great Lakes region.
C. In the Great Lakes region, it is more important to focus conservation efforts on the firefly than it is to focus on the black bear.
D. In the Great Lakes region, conservation efforts focused on the firefly are likely to be more effective than the focused on the black bear.

9. The following text is adapted from Guy de Maupassant's 1884 short story "A Recollection," from the collection Guy de Maupassant Short Stories (translated by Albert M.C. McMaster et al. in 1903). The narrator is taking a boat down the Seine river from Paris, France, to the surrounding countryside.

> I took up a position in the bows [front of the boat), standing up and looking at the quays, the trees, the houses and the bridges disappearing behind us. And suddenly I perceived the great viaduct of Point du Jour which blocked the river. It was the end of Paris, the beginning of the country, and behind the double row of arches the Seine, suddenly spreading out as though it had regained space and liberty, became all at once the peaceful river which flows through the plains, alongside the wooded hills, amid the meadows, along the edge of the forests.

Based on the text, which choice best expresses the narrator's characterization of the Seine?

A. As the journey progressed from Paris to the countryside, the waters of the Seine gradually cleared.

B. The Seine is similar to Paris in that it is beautiful and slow to change.
C. The waters of the Seine are more confined and rough in Paris than they are in the countryside.
D. The current under the arches of the Point du Jour contrasts starkly with the otherwise calm flow of the Seine throughout the journey.

10. Water flowing around an obstruction creates vortices (patterns of swirls) of varying size; by detecting the vortices, fish can determine the size and position of the obstruction. Testing by Yuzo R. Yanagisuru, Otar Akanyeti, and James C. Liao using models of three head shapes-narrow (low ratio of width to length), intermediate, and wide (high ratio of width to length)- showed that for large vortices, fish with intermediate heads would be better able than wide-headed fish to distinguish between vortices and general turbulence in the water. A second research team has therefore hypothesized that in low-visibility conditions, intermediate-headed fish will be more likely than wide-headed fish to detect obstructions that create large vortices.

Which finding, if true, would most directly support the second research team's hypothesis?

A. A study using obstructions that created large vortices in low- visibility conditions found that the intermediate-headed black sea bass (Centropristis sthtes) bumped into the obstructions just as often as the wide-headed Synodontis macropunctata did.
B. A study using obstructions that created large vortices in low- visibility conditions found that the wide-headed Synodontis macropunctata bumped into obstructions more often than the intermediate-headed black sea bass (Centropristis striates) did.
C. A study using obstructions that created large vortices in low- visibility conditions found that some specimens of the intermediate-headed black sea bass (Centropristis striates) bumped into the obstructions more often than other specimens of the same fish did.
D. A study using obstructions that created large vortices in low- visibility conditions found that the Synodontis macropunctata, which has a relatively wide head, bumped into more than half of the obstructions.

11. A film studies student is researching early 20th-century film serials, which consisted of individual episodes of a single long story that were shown weekly in theaters. Clancy of the Mounted is a 1933 serial that, over its 12 episodes, kept its audience interested with the suspense and drama that are typical of the northern adventure genre. The student, however, claims that ultimately audiences of the time preferred resolution and closure over ongoing tension.

Which finding, if true, would most directly support the student's claim?

A. The 12th episode of Clancy of the Mounted was the most expensive episode of the series to produce.
B. The 12th episode of Clancy of the Mounted was viewed by more people than any previous episode in the series.
C. Modern critics generally regard the first episode as the best installment of Clancy of the Mounted.
D. Audiences of the time considered Clancy of the Mounted to belong to a genre other than the northern adventure genre.

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12. The Reckoning and Resilience (2022) exhibition at Duke University's Nasher Museum of Art in Durham, North Carolina, is dedicated to the work of thirty North Carolina artists, including Juan Logan, Cornell Watson, and Stephen Hayes. Although the Nasher Museum has focused exhibitions entirely on North Carolina artists before, as it did previously in the photography exhibition Across County Lines, the breadth of disciplines in Reckoning and Resilience sets it apart.

    Which finding, if true, would most directly support the underlined claim?

    A. Reckoning and Resilience and Across County Lines were curated to emphasize works that are not owned by the Nasher Museum.
    B. The Nasher Museum has a world-class collection of contemporary art that includes many paintings and sculptures from artists both inside and outside North Carolina.
    C. Logan is a painter, Watson is a photographer, and Hayes is a sculptor.
    D. Watson is a North Carolina photographer, as were all of the artists featured in Across County Lines.

13. Rafael Núñez and colleagues studied how members of the Yupno, an Indigenous group in Papua New Guinea, conceptualize time. The researchers recorded Yupno speakers explaining certain temporal words and phrases, such as kalip si ngan, a past-oriented expression that translates to "a long time ago," and coded each speaker's manual gestures. Previous research has found a tendency in many cultures to make temporal distinctions using spatial concepts and gestures, particularly along egocentric axes (i.e., relative to the orientation of the speaker): for instance, English speakers often refer to the front/back axis to describe events in time. In an anthropology paper, a student claims that the tendency toward ego-based conceptualizations of time is universal.

    Which finding, if true, would most directly weaken the student's claim?

    A. Some Yupno grammatical structures used when talking about time are also used in English.
    B. When Yupno speakers who are outdoors use gestures to refer to the future, they point uphill from their current location regardless of which way they are facing.
    C. A Yupno speaker points in opposite directions when indicating a past event versus a future event.
    D. Although Yupno speakers and English speakers both use gestures to indicate orientation in time, Yupno speakers tend to use fewer gestures overall when speaking than English speakers do.

14. Over 600 languages are spoken in New York City in addition to English- one can find Acehnese spoken in the neighborhood of Astoria, for example, or Hindi in Gramercy Park. English is the most common, with 65% of New Yorkers speaking it at home; Spanish is second, at 20%. A linguist hypothesizes that a Spanish dialect - a variation different from the parent language in some of its vocabulary, pronunciation, and grammar - has developed in New York City, partly due to its linguistic interaction with English. Previous research shows that younger speakers of non-majority languages are more likely to borrow words from the majority language of a region than are older speakers. If the linguist's hypothesis is correct, it is therefore likely to be the case that _____

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Which choice most logically completes the text?

A. younger speakers of Spanish in New York City would be more likely to use a dialect specific to New York City than older speakers living in the same neighborhood would be.
B. The proportion of younger speakers who use a Spanish dialect specific to New York City is higher in neighborhoods where many languages are spoken than in neighborhoods where Spanish and English predominate.
C. both the number of languages spoken in New York City and the number of dialects of each of those languages will increase over time.
D. Spanish used by younger speakers in New York City tends to have more words borrowed from other non-majority languages than borrowed from English.

15. Arthurian legends (tales related to the character of King Arthur) derive from many sources, such as Preiddeu Annwfn, composed around 900, and Erec and Enide from around 1170. One of the most significant sources, Geoffrey of Monmouth's History of the Kings of Britain, was written in Latin in the 1130s; some material from it was later adapted by the Norman poet Wace into the Roman de Brut in 1155. But while no source before 1155 includes references to the famous Round Table at which Arthur's knights assembled, both the Roman de Brut and Sir Thomas Malory's 15th-century compilation of Arthurian legends, Le Morte d'Arthur, do. It can therefore be inferred that___

Which choice most logically completes the text?

A. Malory did not use Preiddeu Annwn as a source for information he presented about the Round Table.
B. Geoffrey of Monmouth was unaware of stories of the Round Table when composing his History, though historians know that works containing such stories were available to him.
C. Le Morte d'Arthur is more historically accurate than History, because Erec and Enide had not been written when Geoffrey of Monmouth was writing his work.
D. Geoffrey of Monmouth's accounts of Arthurian legends in his History are more similar overall in content to the accounts in Erec and Enide than they are to the accounts in Roman de Brut.

16. An analysis by Alain Elayi and colleagues of coins minted in Sidon in the fifth and fourth centuries BCE reveals a change in their composition over time: while a coin from circa 450 BCE contains about 98% silver and 1%. copper, a coin from 367 BCE (the end of Ba'alšillem II's reign) contains 74.2% silver and 24.7% copper, giving it a relatively yellowish appearance that traders would have noticed. Because coins with a silver content below 80% were widely considered unsuitable for trade, Elayi et al. speculate that a crisis in confidence in the currency occurred in Sidon around 367 BCE, which was likely relieved - despite Sidon's persistent oppressive financial obligations - as a result of Ba'alšillem II's successor Abd'aštart I's decision to __

Which choice most logically completes the text?

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A. keep the amount of silver in Sidonian coins consistent with that in coins minted in 367 BCE but decrease their weight.
B. proclaim that the percentage of silver in coins suitable for trade would be raised to a threshold higher than 80%.
C. fund the mining of some copper deposits that were not available to Ba'alšillem II.
D. begin minting heavier coins with a proportion of silver to copper similar to that in coins minted in 367 BCE.

17. Today, the Michelin Guide is widely known as the arbiter of fine dining, but when it was created in 1900, it was little more than a marketing gimmick: brothers Andre and Edouard Michelin sought to increase profits for their tire company by encouraging their customers to drive across France, visiting the guide's recommended hotels and restaurants along the way. Nevertheless, the guide soon grew in scope and _____ its modest French eateries were replaced with some of the most esteemed restaurants from around the world, including Makimura in Tokyo and DiverXO in Madrid.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. influence and
B. influence, and
C. influence,
D. influence

18. Interest in mechanotransduction, the mechanism by which cells sense and convert mechanical stimuli into biochemical signals, is expanding because of innovative work by biomedical scientists-many of whom, like neuroscience and biophysics expert Elba Serrano, _____ this mechanism to better understand how the body's neurological and biomechanical systems interact.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. studies
B. has studied
C. study
D. is studying

19. Integrating insights from economics and psychology, researchers in the field of behavioral economics explore a variety of topics. Olga Shurchkov of Wellesley College studies worker _____ other researchers investigate areas such as market behavior and consumer behavior.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. productivity for instance;
B. productivity, for instance;
C. productivity; for instance,
D. productivity, for instance,

20. Jeffery Renard Allen's short essay on "backwall," a word referring to the cliff at the head of a glacier-carved valley, is included in the collection Home Ground: A Guide to the American

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Landscape. The book wasn't written solely by _____other authors, such as Carolyn Servid and Barry Lopez, also contributed essays.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. Allen; however,
B. Allen, however;
C. Allen. However,
D. Allen, however,

21. Recent pollen analyses of the Aran Islands have led some researchers to propose that the now treeless islands were once wooded. This hypothesis _____ that certain trees, such as P. sylvestris, survived without interruption or human intervention throughout the Holocene cannot stand, researchers Michael O'Connell and Karen Molloy counter, unless other explanations can first be ruled out.

Which choice completes the text so that it conforms to the conventions of Standard English?

A. suggested
B. has suggested
C. suggesting
D. suggests

22. With his room-sized installation Unicorn/My Private Sky, Norwegian artist Børre Sæthre succeeds in creating a whimsical yet perplexing experience. _____ when visitors set foot inside the fantastically blue room and encounter the life-sized stuffed unicorn preening at the far end of it, they are both dazzled and confused as if stepping into a strange and enchanting new world.

Which choice completes the text with the most logical transition?

A. Indeed,
B. Second,
C. Nevertheless,
D. Instead,

23. Mountain climbing routes that incorporate metal rungs and cables are known as via ferratas, from the Italian phrase for "iron path." As climbing these routes has shifted from a mode of travel to a sporting activity, modern via ferratas are rarely designed to simply reach a summit. _____ new routes favor recreation over utility, aiming to provide a challenging climb or showcase dramatic scenery.

Which choice completes the text with the most logical transition?

A. Nonetheless,
B. On the other hand,
C. More often,
D. Additionally,

24. While researching a topic, a student has taken the following notes:

- Chromosomes are cellular structures that contain genes.
- Genes carry critical instructions for determining an organism's physical traits.
- Members of the same species typically have the same number of chromosomes.
- The bat-eared fox (Otocyon megalotis) and the Bengal fox (Vulpes bengalensis) are species of foxes.
- The bat-eared fox has seventy-two chromosomes.
- The Bengal fox has sixty chromosomes.

The student wants to specify how many chromosomes the bat-eared fox has. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The bat-eared fox (Otocyon megalotis) and the Bengal fox (Vulpes bengalensis) both have chromosomes, but the bat-eared fox has more than the Bengal fox does.
B. The Bengal fox, a species of fox, has sixty structures called chromosomes.
C. The bat-eared fox's chromosomes contain genes, which are critical to determining an organism's physical traits.
D. The bat-eared fox (Otocyon megalotis) has seventy-two chromosomes.

25.

- At London and New York Fashion Weeks, fashion designers debut new clothing collections.
- Color consultants create trend reports on the popular colors at a given Fashion Week.
- A report on 2018 London Fashion Week noted the popularity of a light green-yellow shade that was cool in tone and soft in intensity.
- A report on 2019 New York Fashion Week noted the popularity of a deep brown shade that was warm in tone and rich in intensity.

Which choice most effectively uses information from the given sentences to describe a color that was popular at 2019 New York Fashion Week?

A. Shades of light green-yellow and deep brown have both been featured in Fashion Week reports prepared by color consultants.
B. The shade favored by designers at 2019 New York Fashion Week was a departure from the cool, soft shade of light green-yellow that had proved popular at 2018 London Fashion Week.
C. Each Fashion Week, color consultants compile reports on the colors that have been popular among designers.
D. At 2019 New York Fashion Week, many designer collections featured a warm, rich shade of deep brown.

26. While researching a topic, a student has taken the following notes:

- The fifth Solvay Conference on Physics was held in 1927.
- It brought together twenty-nine of the era's preeminent scientists to discuss the emerging field of quantum theory.
- The conference famously featured a debate between physicists
- Albert Einstein and Niels Bohr.
- Bohr proposed that subatomic entities like electrons had only probable realities until they were observed.

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- Einstein argued that subatomic entities like electrons had a reality independent of observation.
- Bohr's position, later called the Copenhagen interpretation, remains the most widely accepted theory of quantum mechanics.

The student wants to place Einstein's argument within its historical context. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. During the dawn of quantum theory, Einstein maintained the independent reality of some subatomic entities, although Bohr's opposing interpretation would become the widely accepted view.
B. In 1927, Einstein and Bohr engaged in a famous debate; Bohr's argument, later called the Copenhagen interpretation, would remain popular decades after.
C. The attendees of the 1927 Solvay Conference were among the preeminent scientists of their era, including Einstein, who opposed Bohr's proposal.
D. At the 1927 Solvay Conference on Physics, Einstein disagreed with Bohr's argument that subatomic entities like electrons had a reality independent of observation.

27. While researching a topic, a student has taken the following notes:
- The Mohs scale of mineral hardness is a ten-point scale that orders minerals by hardness based on their ability to scratch other minerals.
- Minerals with larger numbers are harder than minerals with smaller numbers and can leave visible scratches on them.
- Minerals with smaller numbers are softer than minerals with larger numbers and cannot leave visible scratches on them.
- The mineral calcite has a Mohs scale number of 3.
- The mineral apatite has a Mohs scale number of 5.
- The mineral corundum has a Mohs scale number of 9

The student wants to make a generalization about minerals. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Based on their Mohs scale numbers, corundum (9) is harder than apatite (5), and apatite is harder than calcite (3).
B. Corundum can leave visible scratches on calcite, which is why corundum has a higher number than calcite on the Mohs scale of mineral hardness.
C. Any mineral with a Mohs number of 9, like corundum, can scratch a mineral with a Mohs number of 5, like apatite.
D. The Mohs scale can be used to order calcite, corundum, and apatite by their ability to scratch other minerals.

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MATH

MODULE 1

1. What value of x is the solution to the given equation?

   $7x - 6x + 130 = 260$

2. A company studied a random sample of 20 lawns in a small town. The company found that 4 of these lawns contain fertilizer. If there are 260 lawns in the town, which of the following is the best estimate of the number of lawns that contain fertilizer?

   A. 3
   B. 5
   C. 13
   D. 52

3. The function gives the total number of people on a school trip with x teachers. What is the total number of people on a school trip with 12 teachers?

   $f(x) = 12x + 6$

4. A total of 271 toothpicks of equal length were used to construct two types of figures: triangles and squares. The triangles and squares were constructed so that no two figures had a common side. The equation 3x+4y=271 represents this situation, where x is the number of triangles constructed and y is the number of squares constructed. What is the best interpretation of (x, y) = (13,58) in this context?

   A. If 13 triangles were constructed, then 58 squares were constructed.
   B. If 13 triangles were constructed, then 58 toothpicks were used.
   C. If 58 triangles were constructed, then 13 toothpicks were used.
   D. If 58 triangles were constructed, then 13 squares were constructed.

5. The function k is defined by $k(x) = 2^3 + 700$. What is the value of k(x) when x = 2?

   A. 700
   B. 705
   C. 706

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D. 708

6. One of the two equations in a system of linear equations is given. The system has infinitely many solutions. If the second equation in the system is y = mx + b where m and b are constants, what is the value of b?

$$y = \frac{4}{7}x + 5$$

A. -5
B. - 1/5
C. 1/5
D. 5

7. Each side of square A has a length of 24 inches. Each side of square A is multiplied by a scale factor of 2 to create square B. What is the length, in inches, of each side of square B?

A. 22
B. 24
C. 26
D. 48

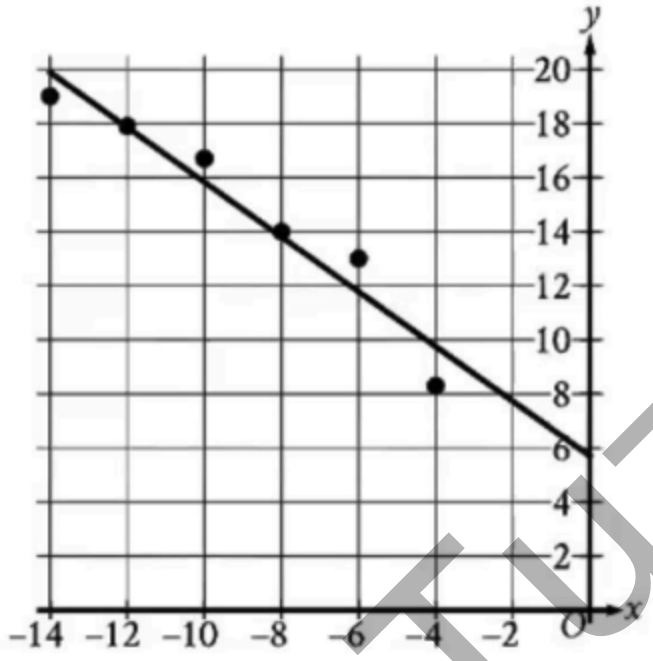
8. The function f models the depth below sea level, in meters, of a certain seal z minutes after the seal dives into the water. What is the best interpretation of f(2)= 170 in this context?

$$f(x) = -8x^2 + 101x$$

A. 2 minutes after the seal dives into the water, its estimated depth is 170 meters below sea level.
B. Approximately 2 minutes after diving into the water, the seal returns to sea level.
C. The seal reaches an estimated maximum depth of 170 meters below sea level.
D. 170 minutes after the seal dives into the water, its estimated depth is 2 meters below sea level.

9. The scatterplot shows the relationship between two variables, 2 and y. A line of best fit is also shown.

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Which of the following equations best represents the line of best fit shown?

A. $y = x - 19.9$
B. $y = -x + 19.9$
C. $y = x - 5.7$
D. $y = -x + 5.7$

10. For the function h, the table gives three values of z and their corresponding values of h(x) Which equation could define h?

x	$h(x)$
0	30
1	31
2	33

A. $h(x) = 2^x$

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B. $h(x) = 2^x + 2$

C. $h(x) = 2^x + 28$

D. $h(x) = 2^x + 29$

11. As part of a science experiment on evaporation, Ella measured the height of water in a glass over a period of time. The function $f(x)=36 - 0.16x$ gives the estimated height, in centimeters (cm), of the water in the glass 2 days after the start of the experiment. What is the best interpretation of 0.16 in this context?

A. The estimated height, in cm, of the water at the start of the experiment
B. The estimated height, in cm, of the water at the end of the experiment
C. The estimated change in the height, in cm, of the water each day
D. The estimated number of days for all the water in the glass to evaporate

12. For the linear function h, h(0) = 0 and h(7) = 4 Which equation defines h?

A. $h(x) = \frac{7}{4}x$

B. $h(x) = \frac{7}{4}x + 7$

C. $h(x) = \frac{4}{7}x$

D. $h(x) = \frac{4}{7}x + 4$

13. The product of a positive number x and the number that is 5 more than x is 104. What is the value of x?

A. 4
B. 8
C. 13
D. 26

14. The measure of angle C is 5π/4 radians. What is the value of cos(C) ?

A. $\frac{-\sqrt{2}}{2}$

B. $\frac{-1}{2}$

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C. $\frac{\sqrt{2}}{2}$

D. $\frac{\sqrt{3}}{2}$

15. A model estimates that a gray whale travels 72 to 77 miles each day during its migration. Based on this model, which inequality represents the estimated total number of miles x, a gray whale could travel in 14 days of its migration?

A. $(72)(14) \leq x \leq (77)(14)$
B. $72 + 14 \leq x \leq 77 + 14$
C. $72 \leq 14x \leq 77$
D. $72 \leq 14 + x \leq 77$

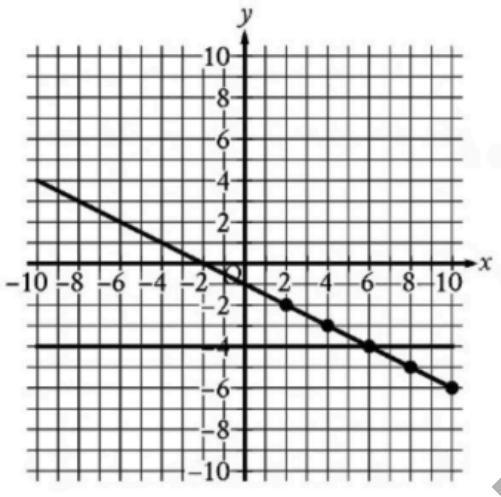
16. The table summarizes the number of objects in each group.

Group	Number of objects
A	325
B	68
C	572
D	102
Total	1,067

The number of objects in group C is p% of the number of objects in group A. What is the value of p?

17. The graph of a system of two linear equations is shown. If a third equation, $x + 2y = -8$, is added to this system, how many solutions will the resulting system of three equations have?

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A. Zero
B. Exactly one
C. Exactly two
D. Infinitely many

18. Which expression is equivalent to 15(x + 10)?

A. 15x + 10
B. 15x + 150
C. 15x + 25
D. 15x + 5

19. Data set A and data set B each consist of 26 values. The table shows the frequencies of the values for each data set. Which of the following statements best compares the means of the two data sets?

Value	Data set A frequency	Data set B frequency
40	2	8
43	4	7
46	5	5
49	7	4
52	8	2

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A. The mean of data set A is greater than the mean of data set B.
B. The mean of data set A is less than the mean of data set B.
C. The mean of data set A is equal to the mean of data set B.
D. There is not enough information to compare the means of the data sets.

20. The function g is defined as $g(x) = \frac{2x-4}{(2x+11)(x-6)}$ .If g(a + 5) = 0, where a is a constant, what is the value of a?

21. What is the sum of the solutions to the given equation?

$|x - 8| = - |x - 8| + 20$

22. The floor of a library has an area of 9,375 square feet. An architect creates a scale model of the floor of the library, where the length of each side of the model is $\frac{1}{25}$ times the length of the corresponding side of the floor of the actual library. What is the area, in square feet, of the scale model?

MODULE 2

1. The water depth in a certain river is 78.7 feet (ft). During a 30-day period, the water depth in this river is predicted to increase by a minimum of 1 ft and a maximum of 3 ft. What is the predicted maximum water depth, in feet, during this time?

A. 75.7
B. 77.7
C. 79.7
D. 81.7

2. What value of y is the solution to the given equation?

$5(y - 15) + 10 = 4(y - 15)+10$

A. 0
B. 1
C. 10
D. 15

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3. If f(x) = x + 3 and g(x) = 3x what is the value of 5f(2) - g(2)?

4. The given expression is equivalent to by + c, where b and c are constants. What is the value of b?

   (9y + 9) - (5y + 7)

5. What is the slope of the graph of y = $\frac{1}{2}$(11x + 16) + 4x in the zy-plane?

   A. $\frac{11}{2}$
   B. $\frac{19}{2}$
   C. 11
   D. 15

6. A clothing store buys shirts at a wholesale price of 4.00 dollars each and resells them each at a retail price that is 280% of the wholesale price. At the end of the season, any remaining shirts are marked at a discounted price that is 80% off the retail price. What is the discounted price of each remaining shirt, in dollars?

7. Which expression is equivalent to $\sqrt[12]{x^5 y^5}$ where x and y are positive?

   A. $(xy)^{\frac{12}{5}}$
   B. $(xy)^{\frac{5}{12}}$
   C. $(xy)^{17}$
   D. $(xy)^{60}$

8. In 6 days, a polar bear ate 25.8 pounds of fat. Which equation describes the amount of fat y, in pounds, the polar bear ate in these 6 days?

   A. y = 25.8 + 6
   B. y = 25.8
   C. y = $\frac{25.8}{6}$
   D. y = 6

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9. If $(x + 3)^2 = 33$ what is the value of $x^2 + 6x$?

10. In the xy-plane, line s passes through the point (0,0) and is parallel to the line represented by the equation y = 25x + 5. If line s also passes through the point (2, d), what is the value of d?

A. 5
B. 25
C. 50
D. 55

11. In triangle FGH and triangle KLM, the measures of angles G and L are each 60º. The lengths of GH and LM are each 34 centimeters, and $\frac{GH}{GF} = \frac{LM}{LK}$. Which additional piece of information would be necessary to prove that triangle FGH is congruent to triangle KLM?

A. The lengths of FG and KM are each 17 centimeters.
B. The measures of angles H and M are each 30º
C. The measures of angles F and K are each 90º
D. No additional information is necessary.

12. A machine launches a baseball from ground level. The baseball reaches a maximum height of 92.16 meters above the ground at 2.4 seconds and hits the ground at 4.8 seconds. Which equation represents the height above ground h, in meters, of the baseball t seconds after it is launched?

A. $h = -t^2 + 4.8$
B. B $h = -t^2 + 92.16$
C. C $h = -16(t - 2.4)^2 - 4.8$
D. D $h = -16(t - 2.4)^2 + 92.16$

13. The function f is defined by the given equation. If g(x) = f(x - 3) which of the following equations defines the function g?

$f(x) = 240(2)^x$

A. $g(x) = 30(2)^x$

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B. $g(x) = 80(2)^x$

C. $g(x) = 240(8)^x$

D. $g(x) = 240(6)^x$

14. In the given equation, r is a constant. The equation has no solution. What is the value of r?

$-3x + 6rx = 42$

A. $\frac{1}{7}$

B. $\frac{1}{2}$

C. 2

D. 7

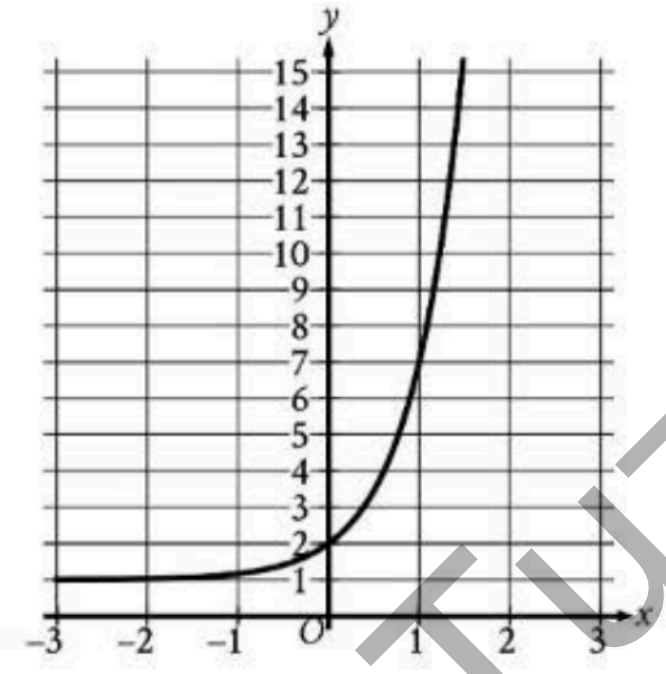
15. The solution to the given system of equations is (x, y). What is the value of x – y?

$$\frac{x-18}{6} + \frac{y+25}{3} = -5$$

$$\frac{x-18}{3} - \frac{y+25}{6} = 5$$

16. The graph of y = f(x) + 1 is shown. Which equation defines the function f?

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A. $f(x) = 6^x$

B. $f(x) = 2^x$

C. $f(x) = 6^x + 2$

D. $f(x) = 2^x + 1$

17. A raised garden is in the shape of a right rectangular prism. Its base has a width of 3 feet and a length of 27 feet, and it will be filled 24 inches high with topsoil. The total cost of the topsoil needed to fill the garden to this height is 234 dollars. What is the unit cost, in dollars per cubic yard, for the topsoil? (1 yard 3 feet; 1 foot = 12 inches)

18. The result of increasing the quantity z by 600% is 126. What is the value of z?

A. 18

B. 21

C. 474

D. 756

19. The given equation relates the positive variables p, q, r, and s. Which of the following is equivalent to q?

$$\frac{20}{p} = \frac{20}{q} - \frac{20}{r} - \frac{20}{s}$$

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A. $p + r + s$
B. $20(p + r + s)$
C. $\frac{prs}{pr+ps+rs}$
D. $\frac{prs}{20p+20r+20s}$

20. The perimeter of an equilateral triangle is 642 centimeters. The three vertices of the triangle lie on a circle. The radius of the circle is $w\sqrt{3}$ centimeters. What is the value of w?

21. The function f is defined by the given equation, where a, b, and c are distinct constants. When $a < x < b$ the value of $f(x)$ is positive. The graph of $y = f(x)$ in the xy-plane contains the point (r, s), where r and s are constants. If $s = 8$ which of the following could be true?

$f(x) = 3(x - a)(x - b)(x - c)$

I. $r < a$
II. $b < r < c$
III. $r > c$

A. I only
B. III only
C. I and III only
D. II and III only

22. A right square pyramid has a total surface area of 36,864 square inches, and the combined surface area of the four lateral faces of this pyramid is 20,480 square inches. What is the height, in inches, of this pyramid?

A. 48
B. 64
C. 80
D. 128

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