

# MoGEA

## Practice Questions



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# Practice Test

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## English Language Arts

Questions 1 through 3 are based on the following text:

Jo's face was a study next day, for the secret rather weighed upon her, and she found it hard not to look mysterious and important. Meg observed it, but did not trouble herself to make inquiries, for she had learned that the best way to manage Jo was by the law of contraries, so she felt sure of being told everything if she did not ask. She was rather surprised, therefore, when the silence remained unbroken, and Jo assumed a patronizing air, which decidedly aggravated Meg, who in turn assumed an air of dignified reserve and devoted herself to her mother. This left Jo to her own devices, for Mrs. March had taken her place as nurse, and bade her rest, exercise, and amuse herself after her long confinement. Amy being gone, Laurie was her only refuge, and much as she enjoyed his society, she rather dreaded him just then, for he was an incorrigible tease, and she feared he would coax the secret from her. (*Little Women* by Louisa May Alcott)

1. From what point of view is this passage written?
  - a. First person
  - b. Second person
  - c. Third person
  - d. Fourth person
2. The phrase "was a study" implies that
  - a. Jo looked jubilant.
  - b. Jo looked secretive.
  - c. Jo looked disheveled.
  - d. Jo looked angry.
3. What can you infer about Laurie?
  - a. He was stoic.
  - b. He was taciturn.
  - c. He was unruly.
  - d. He was uncanny.

Questions 4 through 7 are based on the following text:

**There Will Come Soft Rains**

By Sara Teasdale

Line 1            There will come soft rains and the smell of the ground,  
                    And swallows circling with their shimmering sound;

                    And frogs in the pools singing at night,  
                    And wild plum trees in tremulous white;

(5)               Robins will wear their feathery fire  
                    Whistling their whims on a low fence-wire;

                    And not one will know of the war, not one  
                    Will care at last when it is done.

(10)              Not one would mind, neither bird nor tree  
                    If mankind perished utterly;

                    And Spring herself, when she woke at dawn,  
                    Would scarcely know that we were gone

4. Which line uses personification?
  - a. Line 2
  - b. Line 4
  - c. Line 7
  - d. Line 11
5. The “we” used in line 12 refers to
  - a. all of mankind.
  - b. the victors of the war.
  - c. Americans.
  - d. the poet and the reader.
6. This poem is an example of a(n)
  - a. sonnet.
  - b. rhymed verse.
  - c. free verse.
  - d. lyric.
7. Which of these statements offers the best summary of the poem?
  - a. Nature does not care about the affairs of mankind.
  - b. It is the government’s responsibility to fight a war.
  - c. War has a devastating impact on nature.
  - d. Wars should not be fought in the spring.

*Questions 8 through 10 are based on the following text:*

Archaeological Sites are concentrations of artifacts, rock art or features that reflect activities conducted by past human cultures. Archaeological sites are also areas or buildings where historic human events occurred, such as mining camps or railroad construction sites. These areas are usually, but not always, accompanied by artifacts.

Cultural Resources are usually archaeological sites. They are also *areas* or *localities* that are considered by Native Americans to have been or are presently significant in the exercise of their respective Native American religions or traditional lifeway customs.

Artifacts are objects that show evidence of use or alteration by humans. There are three kinds of artifacts:

- Prehistoric artifacts were used prior to written history, which is considered in North America to have been before the arrival of Europeans. Examples of prehistoric artifacts are arrowheads, manos and metates, and ceramic materials.
- Historic artifacts were used during written history, but more than 50 years ago. Historic artifacts include purple glass bottles, tin cans sealed with solder, and parts of wagons.
- Recent artifacts were used within the last 50 years and are generally not considered of archaeological significance. (U.S. Department of the Interior)

8. What is a prehistoric artifact?
  - a. An artifact found on an archaeological site
  - b. A purple glass bottle
  - c. An item used within the last 50 years
  - d. An item used prior to written history
9. What is the main idea of the first paragraph?
  - a. Archaeological sites are areas of artifacts, rock art or features that reflect activities of past human cultures.
  - b. Artifacts are objects that show evidence of use by humans.
  - c. Artifacts include purple glass bottles, tin cans sealed with solder, and parts of wagons.
  - d. Archaeological sites can include mining camps and railroad construction sites.
10. What would be a logical implication based on this passage?
  - a. Cultural Resources always contain recent artifacts.
  - b. A site that contains recent artifacts would not be of interest to an archaeologist.
  - c. Arrowheads can be found in mining camps and railroad construction sites.
  - d. Prehistoric artifacts are the most important of the three types of artifacts.

Questions 11 through 14 are based on the following text:

Mary Ainsworth described three major categories of infant attachment: secure, anxious/avoidant, and anxious/ambivalent. After years of additional research by many investigators, Mary Main and Judith Solomon in 1986 identified a fourth pattern: anxious/disorganized/disoriented.

These four major patterns of attachment describe unique sets of behavior:

**Secure:** Securely attached babies are able to use the attachment figure as an effective secure base from which to explore the world. When such moderately stressful events as brief (3-minute) separations in an unfamiliar environment occur, these securely attached babies approach or signal to the attachment figure at reunion and achieve a degree of proximity or contact which suffices to terminate attachment behavior. They accomplish this with little or no open or masked anger, and soon return to exploration or play.

**Avoidant:** Babies with avoidant attachments are covertly anxious about the attachment figure's responsiveness and have developed a defensive strategy for managing their anxiety. Upon the attachment figure's return after the same moderately stressful events, these avoidant babies show mild version of the "detachment" behavior which characterizes many infants after separations of two or three weeks; that is, they fail to greet the mother, ignore her overtures and act as if she is of little importance.

**Ambivalent:** In babies with anxious/ambivalent attachments, both anxiety and mixed feelings about the attachment figure are readily observable. At reunion after brief separations in an unfamiliar environment, they mingle openly angry behavior with their attachment behavior.

**Disorganized/Disoriented:** Babies classified in this group appear to have no consistent strategy for managing separation from and reunion with the attachment figure. Some appear to be clinically depressed; some demonstrate mixtures of avoidant behavior, openly angry behavior and attachment behavior. Others show odd, often uncomfortable and disturbing behaviors. These infant are often seen in studies of high-risk samples of severely maltreated, very disturbed or depressed babies, but also appear in normal middle-class samples. (U.S. Department of Health and Human Services)

11. It can be inferred from this passage that Mary Ainsworth is a
  - a. Botanist
  - b. Biologist
  - c. Psychologist
  - d. Entomologist
12. This passage is mainly about
  - a. three categories of infant attachment.
  - b. four major patterns of infant attachment.
  - c. secure infant attachment.
  - d. high risk babies.

13. This passage would most likely be found in a
- human resources handbook.
  - human development textbook.
  - philosophy textbook.
  - physiology textbook.
14. Babies with avoidant attachments
- show odd, uncomfortable behaviors.
  - are openly angry.
  - show masked anger.
  - act as if the mother is of no importance.
15. What literary movement is a type of realistic fiction that developed in France, America and England in late the 19th century?
- Romanticism
  - Realism
  - Naturalism
  - Classicism
16. Who wrote the 1891 novel *Tess of the D'urbervilles*?
- Emily Bronte
  - Charles Dickens
  - Thomas Hardy
  - Edgar Allan Poe
17. Which author was among the founders of the Modernist movement and authored *A Room of One's Own* in 1929?
- Fyodor Dostoevsky
  - Francis Bacon
  - Charles Dickens
  - Virginia Woolf
18. Which author's works have explored the experience and roles of black women in American society?
- Toni Morrison
  - Washington Irving
  - Richard Wright
  - Flannery O'Conner
19. Which author is associated with the Contemporary movement?
- Homer
  - Henry David Thoreau
  - George Orwell
  - William Shakespeare
20. Catherine and Heathcliff are main characters from which novel?
- Jane Eyre
  - Wuthering Heights
  - The Awakening
  - The Scarlett Letter

21. What is one strategy for prewriting?
- Clustering
  - Reconsidering arguments
  - Retell, Recite, Relate
  - Getting the reader's attention
22. The main difference between a topic outline and a sentence outline is
- a topic outline helps arrange ideas.
  - ideas are numbered or lettered in a sentence outline.
  - ideas are fully stated in a sentence outline.
  - a sentence outline only uses brief phrases or single words.
23. If a student is writing a thesis on brain disorders, the best source of information would be [a(n)]:
- medical journals.
  - encyclopedia.
  - webpage.
  - newspaper.
24. Which is the best revision of this sentence?
- I will start the music after the guests have arrived.
- After the guests have arrived, I will start the music.
  - I will start the music after the guests arrive.
  - I start the music when the guests have arrived.
  - I will have started the music when the guests have arrived.
25. Which sentence is incorrect?
- Shawna graduated from college.
  - Shawna graduated college.
  - The college graduated Shawna.
  - Shawna was graduated from college.
26. Which is not a main step in the writing process?
- Revising
  - Editing
  - Publishing
  - Brainstorming
27. What is the goal of the drafting stage of the writing process?
- Correcting work before publication
  - Making content clear, interesting and complete
  - Getting ideas down on paper without undue concern for mechanics
  - Brainstorming ideas
28. When creating an outline, it is important to use
- prepositions.
  - progressivism.
  - abbreviation.
  - subordination.



29. What takes place in the revision stage of the writing process?
- Correcting errors in grammar, spelling and punctuation
  - Making major changes in content and structure
  - Brainstorming ideas
  - Getting ideas down on paper
30. Which sentence is an example of passive voice?
- Debbie Knuteson won the award.
  - The doctor admitted Joan to the hospital yesterday.
  - James was released from prison in 1951.
  - The veterinarian injected the puppy with three vaccines.
31. Which of the following is a compound-complex sentence?
- The dog lived in the backyard, but the cat, who knew he was superior, lived inside the house.
  - She ate her breakfast, and then brushed her teeth.
  - When she arrived, the train had already left.
  - Facts can be proven.
32. Which of the following is the best example of parallel sentence structure?
- She enjoys dessert, walking on the beach, and songs from the 1980s.
  - I like to eat pies, playing soccer games, and mysteries.
  - The sheriff tried to make the law explicit, accurate, and fair.
  - He is adorable, wears a feather in his hat, and has a cunning way about him.
33. Which correction, if any, should be made in this sentence?
- Servicing the air conditioner every summer, the appliance seemed to run better.
- Servicing the air conditioner every summer, there is an easy way to keep your appliance cooling your home.
  - Servicing the air conditioner every summer, Joan found she could have a much lower electric bill.
  - Servicing the air conditioner every summer, the appliance was kept in excellent condition.
  - No correction is required.
34. Identify the error in this sentence:
- The baking of homemade meals have increased during the current economy.
- of
  - have
  - during
  - current
35. Identify the error in this sentence.
- No matter how diligent Jonas tries, he still fails to complete his homework.
- Adjective and adverb error
  - Antecedent agreement error
  - Dangling modifier
  - Verb tense error

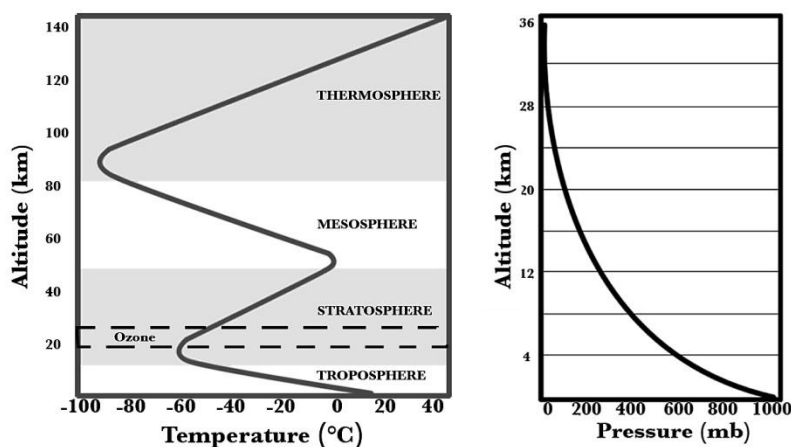
36. Which correction should be made in this sentence?  
After the new neighbors moved in, Russell found there excessively loud music very aggravating.
- Russell found their excessively loud music very aggravating.
  - Russell was aggravated by their excessively loud music.
  - Russell found their excessively loud music very annoying.
  - Russell found them aggravating.
37. What correction, if any, should be made in this sentence?  
Major remodeling is necessary, in instances where mold and dry rot, have destroyed infrastructure.
- Major remodeling is necessary in instances where mold and dry rot have destroyed infrastructure.
  - Major remodeling is necessary, in instances where mold and dry rot have destroyed infrastructure.
  - Major remodeling is necessary in instances where mold, and dry rot, have destroyed infrastructure.
  - No correction is required.
38. Which sentence is incorrectly punctuated?
- My son's smile reminds me of his father.
  - I drove to the grocery store, the Laundromat, and the library that is just down the street.
  - "I am going to lunch," she said. "I haven't finished my work, but I need to eat now."
  - They drove all day to see the snow, however, it had all melted by the time they got there.
39. Identify the error in this sentence.  
The teacher gave stickers to whomever had stood in line quietly.
- Punctuation error
  - Verb tense error
  - Subject and object form error
  - Dangling modifier
40. Which title is not punctuated correctly?
- A Christmas Carol, by Charles Dickens
  - "The Road Not Taken," by Robert Frost
  - "The Raven," by Edgar Allan Poe
  - "The Heart of Darkness," by Joseph Conrad

## Science

1. If you were testing the effectiveness of a cream that reduced the signs of wrinkles around women's eyes, which of the following would be a good control group?
  - a. Rats with no wrinkles
  - b. A group of women with no wrinkles around their eyes who are given the cream
  - c. A group of women with wrinkles who are given a harmless cream that has no effect
  - d. A group of women with wrinkles around their eyes
2. Which step of the scientific method involves independent variables?
  - a. Make an observation
  - b. Ask a question
  - c. Formulate a hypothesis
  - d. Conduct an experiment
3. Which of these units of measurement is used to measure bicyclist's energy expenditure?
  - a. ergs
  - b. nanometers
  - c. milligrams
  - d. cubic centimeters
4. Convert 0.0000000736 to scientific notation.
  - a.  $7.36 \times 10^8$
  - b.  $736 \times 10^{-8}$
  - c.  $7.36 \times 10^{-8}$
  - d.  $736 \times 10^{-8}$
5. The true diameter of electrical wire 3.67 cm. Three measurements of the wire produce the following values: 3.9 cm, 3.9 cm, and 3.9 cm. Which of the following statements is true concerning the measurements?
  - a. They are neither precise nor accurate.
  - b. They are precise and accurate.
  - c. They are precise but not accurate.
  - d. They are accurate but not precise.
6. Science can be differentiated from non-science because scientific results
  - a. are repeatable.
  - b. always take place in a laboratory.
  - c. are based on single events.
  - d. are formed from opinions.
7. Which of the following is formed by meiosis?
  - a. spores
  - b. embryos
  - c. DNA
  - d. chromosomes

8. Most of the energy in a food chain is concentrated in the level of the
  - a. primary producers.
  - b. primary consumers.
  - c. secondary consumers.
  - d. tertiary consumers.
  
9. In a mixture of NaCl and H<sub>2</sub>O, what piece of equipment should be used to separate the mixture?
  - a. magnet
  - b. hotplate
  - c. funnel
  - d. drill
  
10. A scientist wants to measure the direction and duration of the movement of the ground. Which of the following instruments will the scientist most likely use?
  - a. a laser light with holograph
  - b. a seismograph
  - c. an electron microscope
  - d. a stereoscope

Questions 11 and 12 are based on the following figures and text:



The Earth's atmosphere is comprised of multiple layers with very different temperature characteristics. Closest to the surface, the *troposphere* contains approximately 75 percent of the atmosphere's mass and 99 percent of its water vapor and aerosols. Temperature fluctuations cause constant mixing of air in the troposphere through convection, but it generally becomes cooler as altitude increases.

The *stratosphere* is heated by the absorption of ultraviolet radiation from the sun. Since its lower layers are composed of cooler, heavier air, there is no convective mixing in the stratosphere, and it is quite stable.

The *mesosphere* is the atmospheric layer directly above the stratosphere. Here, temperature decreases as altitude increases due to decreased solar heating and, to a degree, CO<sub>2</sub>. In the lower atmosphere, CO<sub>2</sub> acts as a greenhouse gas by absorbing infrared radiation from the earth's surface. In the mesosphere, CO<sub>2</sub> cools the atmosphere by radiating heat into space.

Above this layer lies the *thermosphere*. At these altitudes, atmospheric gases form layers according to their molecular masses. Temperatures increase with altitude due to absorption of solar radiation by the small amount of residual oxygen. Temperatures are highly dependent on solar activity, and can rise to 1,500°C.

11. Commercial jetliners typically cruise at altitudes of 9-12 km, in the lower reaches of the stratosphere. Which of the following might be the reason for this choice of cruising altitude?
  - a. Jet engines run more efficiently at colder temperatures.
  - b. There is less air resistance than at lower altitudes.
  - c. There is less turbulence than at lower altitudes.
  - d. All of the above are possible reasons.
12. The lowest temperatures in the Earth's atmosphere are recorded within the
  - a. Troposphere
  - b. Stratosphere
  - c. Mesosphere
  - d. Thermosphere
13. The major advantage of sexual reproduction over asexual forms is that
  - a. it requires two individuals.
  - b. it promotes diversity.
  - c. it produces more offspring.
  - d. it involves chromosomes.

Questions 14 and 15 are based on the following text:

#### **Isotopes**

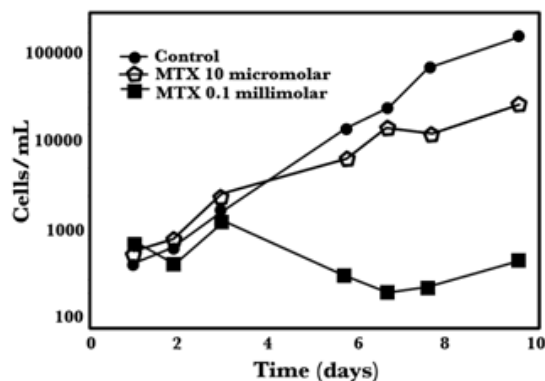
The nucleus of an atom contains both protons and neutrons. Protons have a single positive electric charge, while neutrons have a charge of zero. The number of protons that a nucleus contains, called the atomic number and abbreviated as  $Z$ , determines the identity of an atom of matter. For example, hydrogen contains a single proton ( $Z = 1$ ), whereas helium contains two ( $Z = 2$ ). Atoms of a single element may differ in terms of the number of neutrons in their atomic nuclei, however. The total number of protons and neutrons in an atom is referred to as the atomic mass, or  $M$ . Helium typically has an atomic mass equal to 4, but there is another helium isotope for which  $M = 3$ . This form of helium has the same number of protons, but only one neutron. In an atomic fusion reaction, nuclei collide with one another with enough force to break them apart. The resulting nuclei may have a lower atomic mass than the reactants, with the difference being released as energy. Electric charge, however, is always conserved.

14. Two atoms of helium-3 (atomic mass = 3) collide in a fusion reaction to produce a single atom of helium-4 (atomic mass = 4). What might be another product of this reaction?
  - a. A neutron
  - b. A proton
  - c. Two electrons
  - d. Two protons

15. Hydrogen atoms usually contain a single nucleon. Deuterium and tritium are isotopes of hydrogen containing two and three nucleons, respectively. How many electrons orbit the tritium nucleus if the atom is electrically neutral?

- a. 0
- b. 1
- c. 2
- d. 3

Questions 16 and 17 are based on the following figures and text:



Cancer cells of the murine erythroleukemia (MEL) cell line were cultured in normal growth medium (control) and in two different concentrations of the anti-cancer drug methotrexate (MTX) for a period of ten days. Samples were removed periodically, and the number of cells per milliliter of culture was determined. Each point in the figure represents the mean of five determinations.

16. The growth of cells in the absence of drugs in this experiment can best be described as:

- a. linear
- b. exponential
- c. derivative
- d. inhibited

17. Which of the following statements is supported by the data?

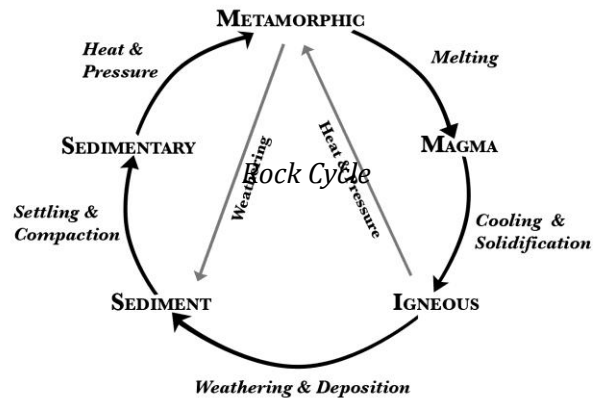
- a. Methotrexate does not inhibit cell growth.
- b. 0.1 millimolar methotrexate inhibits the growth of bacteria.
- c. 10 micromolar methotrexate effectively suppresses cell growth.
- d. 100 micromolar methotrexate effectively suppresses cell growth.

18. A person heterozygous for the recessive gene for blue eyes marries a person who is homozygous for the trait. What is the probability that the couple's third child will have blue eyes?

- a. 0.0
- b. 0.25
- c. 0.50
- d. 1.0

19. A solar eclipse is
- when the moon comes between the sun and the earth
  - the path of the sun across the celestial sphere
  - a geometrical curve
  - when the earth comes between the moon and the sun
20. Pollination involves which plant parts?
- xylem and petiole
  - apical meristem and floral meristem
  - anther and stigma
  - root hairs and stroma
21. Which agricultural product takes the most energy to produce?
- rice
  - potatoes
  - beef
  - wheat

Questions 22 and 23 are based on the following figure and text:



Rocks are created and destroyed in a recurrent process known as the rock cycle. Rocks are made from minerals, which are naturally occurring, crystalline solids of characteristic chemical composition. The actions of heat, pressure, and erosion can change the form of these minerals drastically. *Igneous* rocks form when molten magma is exuded from the Earth's molten core, and then cools and solidifies near the surface. *Sedimentary* rocks are made of fragments of other rocks worn by weathering or erosion. Sand particles form sediments as they settle to the bottom, and are eventually compacted into stone by the weight above them, a process called *lithification*. Heat and pressure can change the crystal structure of these minerals, altering them into denser *metamorphic* rocks, and as these sink deeper into the hot core, they melt again into magma.

22. A process that can lead to igneous rock formation is
- weathering.
  - sedimentation.
  - erosion.
  - volcanic activity.
23. Which of the following rock types is formed at the greatest distances below the Earth's surface?
- Igneous
  - Metamorphic
  - Sedimentary
  - Slate

*Question 24 pertains to the following paragraph:*

An experiment was conducted to determine whether taking an aspirin every day could reduce the chance of a heart attack. Scientists gave a group of 600 heart attack survivors who were in a health and fitness program one aspirin per day for three years. The study found that the people in the study had a much smaller chance of having another heart attack than the national average for heart attack survivors. The scientists concluded that taking aspirin lowers your risk of a heart attack.

24. What is the main flaw of this study?
- The number of people examined in the study was too small.
  - The results of the study may be due to the health regimen the participants were on, not the aspirin.
  - The study did not have a long enough duration to have accurate results.
  - There was no control group.
25. The pilot of an eastbound plane determines wind speed relative to his aircraft. He measures a wind velocity of 320 km/h, with the wind coming from the east. An observer on the ground sees the plane pass overhead, and measures its velocity as 290 km/h. What is the wind velocity relative to the observer?
- 30 km/h east-to-west
  - 30 km/h west-to-east
  - 320 km/h east-to-west
  - 290 km/h east-to-west
26. During periods that are unfavorable for growth, some plants become dormant. Which season would these plants most likely lie dormant in North America?
- Summer
  - Fall
  - Winter
  - Spring
27. Which is the smallest unit of measure, out of the following choices?
- microliter
  - megaliter
  - deciliter
  - milliliter



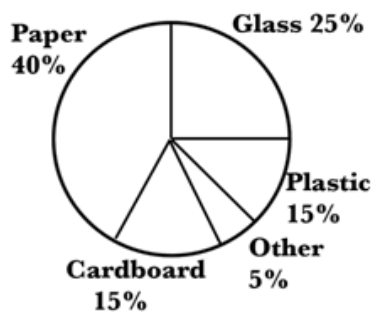
28. Put  $9 \times 10^6$  in standard notation.

- a. 9,000,000
- b. 90,000,000
- c. 0.000009
- d. 0.0000009

29. What is oxidation?

- a. The exchange of carbon dioxide for oxygen
- b. The reduction of the number of chromosomes per cell
- c. Cave formations resulting from the dripping of mineralized water
- d. A change in the chemical composition of iron

Question 30 is based upon the following figure:



A recycling company collects sorted materials from its clients. The materials are weighed and then processed for re-use. The chart shows the weights of various classes of materials that were collected by the company during a representative month.

30. Which of the following statements is NOT supported by the data in the chart?

- a. Paper products, including cardboard, make up a majority of the collected materials.
- b. One quarter of the materials collected are made of glass.
- c. More plastic is collected than cardboard.
- d. Plastic and cardboard together represent a larger portion of the collected materials than glass bottles.

Questions 31 and 32 are based on the following passage:

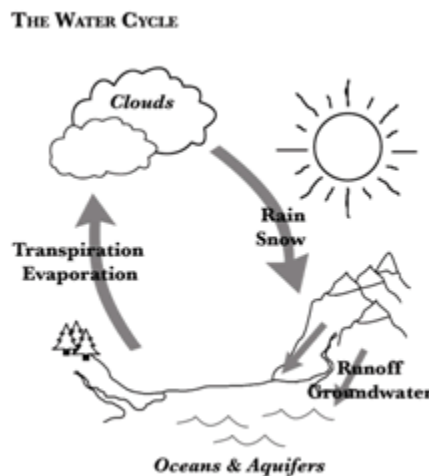
The fossilized remains of a bat have been found in volcanic rock dated to A.D. 79. Scientists studying the bat believe it to be an extinct species.

31. Which of the following statements is the best conclusion based on the data provided?

- a. The volcanic eruption caused the extinction of this species of bat.
- b. The only casualties from the eruption were bats.
- c. The bat was probably from the same period as the volcanic eruption.
- d. Bats never survive volcanic eruptions.

32. What would be the best way for scientists to confirm that the bat is an extinct species?
- Compare the fossilized remains of this bat with the fossilized remains of other species killed in the eruption.
  - Search for live specimens of the fossilized species.
  - Compare the fossilized remains of this bat with bats known to be from that species.
  - Test the genetic make-up of the fossilized bat.
33. A Tsunami may be caused by
- earthquakes
  - volcanoes
  - landslides
  - A, B and C

Questions 34–37 are based upon the following figure and text:



Energy from the sun heats the water in the oceans and causes it to evaporate, forming water vapor that rises through the atmosphere. Cooler temperatures at high altitudes cause this vapor to condense and form clouds. Water droplets in the clouds condense and grow, eventually falling to the ground as precipitation. This continuous movement of water above and below ground is called the hydrologic cycle, or water cycle, and it is essential for life on our planet. All the Earth's stores of water, including that found in clouds, oceans, underground, etc., are known as the *hydrosphere*.

Water can be stored in several locations as part of the water cycle. The largest reservoirs are the oceans, which hold about 95% of the world's water, more than 300,000,000 cubic miles. Water is also stored in polar ice caps, mountain snowcaps, lakes and streams, plants, and below ground in aquifers. Each of these reservoirs has a characteristic *residence time*, which is the average amount of time a water molecule will spend there before moving on. Some typical residence times are shown in the table.

***Average reservoir residence times of water.***

<b>Reservoir</b>	<b>Residence Time</b>
Atmosphere	9 days
Oceans	3,000 years
Glaciers and ice caps	100 years
Soil moisture	2 months
Underground aquifers	10,000 years

The water cycle can change over time. During cold climatic periods, more water is stored as ice and snow, and the rate of evaporation is lower. This affects the level of the Earth's oceans. During the last ice age, for instance, oceans were 400 feet lower than today. Human activities that affect the water cycle include agriculture, dam construction, deforestation, and industrial activities.

34. Another name for the water cycle is
- the hydrosphere.
  - the atmosphere.
  - the residence cycle.
  - the hydrologic cycle.
35. Water is stored underground, as well as in oceans and ice caps. Such underground storage reservoirs are called
- storage tanks.
  - aquifers.
  - evaporators.
  - runoff.
36. Other than atmospheric water, water molecules spend the least time in
- aquifers.
  - oceans.
  - glaciers.
  - soil.
37. Which of the following statements is NOT true?
- Cutting down trees affects the water cycle.
  - Ocean levels rise during an ice age.
  - Oceans hold most of the world's water.
  - Clouds are formed because of cold temperatures.
38. What is the best use for a barometer?
- measuring temperature
  - measuring atmospheric pressure
  - observing remote objects
  - viewing objects too small for the naked eye to see

39. Sn is the symbol for which element?
- a. Sulfur
  - b. Selenium
  - c. Scandium
  - d. Tin
40. What is often used to transport a measured volume of liquid?
- a. a pipette
  - b. a graduated cylinder
  - c. a beaker
  - d. a slide

## Mathematics

1. A blouse normally sells for \$138, but is on sale for 25% off. What is the cost of the blouse?

- a. \$67
- b. \$103.50
- c. \$34.50
- d. \$113

2. The following table shows the distance from a point to a moving car at various times.

$d$	Distance	50	70	110
$t$	Time	2	3	5

If the speed of the car is constant, which of the following equations describes the distance from the point to the car?

- a.  $d = 25t$
- b.  $d = 35t$
- c.  $d = 55t$
- d.  $d = 20t + 10$

3. There are  $n$  musicians in a marching band. All play either a drum or a brass instrument. If  $p$  represents the fraction of musicians playing drums, how many play a brass instrument?

- a.  $pn - 1$
- b.  $p(n - 1)$
- c.  $(p - 1)n$
- d.  $(1 - p)n$

4. Set  $A = \{(-6, -3), (-4, 2), (9, 0)\}$

Set  $B = \{(-4, 2), (-6, -1), (-6, -3), (7, 1)\}$

What is the intersection of sets  $A$  and  $B$ ?

- a.  $\{(9, 0)\}$
- b.  $\{(-6, -3)\}$
- c.  $\{(-6, -3), (-4, 2)\}$
- d.  $\{(-6, -4), (-4, 2), (-6, -1), (9, 0), (7, 1)\}$

5. Which of the following is an example of an irrational number?

- a. -8
- b.  $\frac{1}{4}$
- c.  $\sqrt{2}$
- d. 28

6. Which of the following is an example of the commutative property?
- a.  $8 + 12 = 12 + 8$
  - b.  $20 + 0 = 20$
  - c.  $9(3 + 6) = 9 \cdot 3 + 9 \cdot 6$
  - d.  $2 + -2 = 0$
7. An MP3 player is set to play songs at random from the fifteen songs it contains in memory. Any song can be played at any time, even if it is repeated. There are 5 songs by Band A, 3 songs by Band B, 2 by Band C, and 5 by Band D. If the player has just played two songs in a row by Band D, what is the probability that the next song will also be by Band D?
- a. 1 in 5
  - b. 1 in 3
  - c. 1 in 9
  - d. 1 in 27
8. Referring again to the MP3 player described in Question 7, what is the probability that the next two songs will both be by Band B?
- a. 1 in 25
  - b. 1 in 3
  - c. 1 in 5
  - d. 1 in 9
9. To determine a student's grade, a teacher throws out the lowest grade obtained on 5 tests, averages the remaining grades, and rounds up to the nearest integer. If Betty scored 72, 75, 88, 86, and 90 on her tests, what grade will she receive?
- a. 68
  - b. 85
  - c. 88
  - d. 84.8
10. Simplify the following expression:  $6x + 2y - 3 + 4x + 5y + 6$
- a.  $10x + 7y + 3$
  - b.  $24x + 7y + 9$
  - c.  $17xy + 3$
  - d.  $2x + 7y + 3$
11. What is the value of the expression  $-3 \times 5^2 + 2(4-18) + 33$ ?
- a. -130
  - b. -70
  - c. -20
  - d. 74
12. A box of laundry detergent contains 16.5 oz of product. What is the maximum number of loads that can be washed if each load requires a minimum of  $\frac{3}{4}$  oz of detergent?
- a. 10
  - b. 50
  - c. 22
  - d. 18

13. A crane raises one end of a 3300 lb steel beam. The other end rests upon the ground. If the crane supports 30% of the beam's weight, how many pounds does it support?

- a. 330 lbs
- b. 990 lbs
- c. 700 lbs
- d. 1100 lbs

14. A taxi service charges \$5.50 for the first  $\frac{1}{5}$ th of a mile, \$1.50 for each additional  $\frac{1}{5}$ th of a mile, and 20¢ per minute of waiting time. Joan took a cab from her place to a flower shop 8 miles away, where she bought a bouquet, then another 3.6 miles to her mother's place. The driver had to wait 9 minutes while she bought the bouquet. What was the fare?

- a. \$20
- b. \$120.20
- c. \$92.80
- d. \$91

15. Prizes are to be awarded to the best pupils in each class of an elementary school. The number of students in each grade is shown in the table, and the school principal wants the number of prizes awarded in each grade to be proportional to the number of students. If there are twenty prizes, how many should go to fifth grade students?

Grade	1	2	3	4	5
Students	35	38	38	33	36

- a. 5
- b. 4
- c. 7
- d. 3

16. Solve the following equation:  $x + 16 = 3x + 32$

- a.  $-16 = 2x$
- b.  $x = -8$
- c.  $x = -16$
- d.  $x = -32$

17. Translate the following into mathematical symbols:

46 is less than the difference of 17 and a number

- a.  $46 < x - 17$
- b.  $46 > 17 - x$
- c.  $46 < 17 - x$
- d.  $17 - x < 46$

18. Solve the inequality:  $|x + 6| < 9$

- a.  $(-15, 3)$
- b.  $(3, 3)$
- c.  $(-15, -3)$
- d.  $(6, -9)$

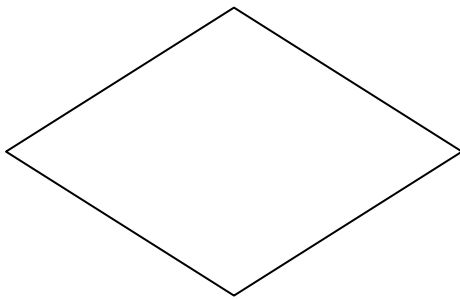
19. Solve the quadratic equation:  $x^2 + 3x = -2$

- a.  $x = 1, 2$
- b.  $x = -2, -3$
- c.  $x = 2, 1$
- d.  $x = -2, -1$

20. What is a reflex angle?

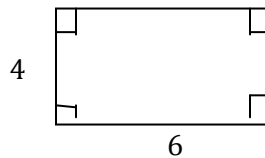
- a. an angle that measures less than  $90^\circ$
- b. an angle that measures more than  $90^\circ$ , but less than  $180^\circ$
- c. an angle that measures  $180^\circ$  exactly
- d. an angel that measures more than  $180^\circ$

21. What geometric figure is this?



- a. rhombus
- b. trapezoid
- c. pentagon
- d. square

22. How are the following polygons related?



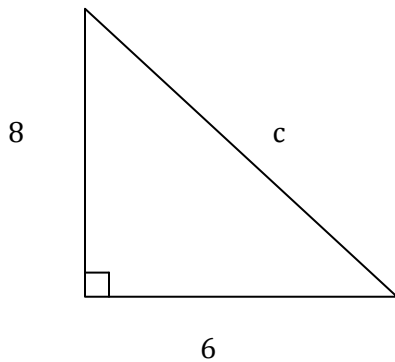
- a. They are congruent.
- b. They are acute.
- c. They are similar.
- d. They are adjacent.

23. Find the perimeter of a triangle with sides measuring 6 centimeters, 12 centimeters and 14 centimeters.

- a. 18 cm
- b. 24 cm
- c. 28 cm
- d. 32 cm



24. The radius of a circle is 6 inches. What is the area?
- a. 18.84 in<sup>2</sup>
  - b. 37.68 in<sup>2</sup>
  - c. 87.98 in<sup>2</sup>
  - d. 113.04 in<sup>2</sup>
25. Find the volume of a cube with the length of each side as 12 cm.
- a. 36 cm<sup>3</sup>
  - b. 650 cm<sup>3</sup>
  - c. 1,728 cm<sup>3</sup>
  - d. 2,421 cm<sup>3</sup>
26. Find the surface area of a sphere with the radius of 1.5 cm.
- a. 28.26 cm<sup>2</sup>
  - b. 7.065 cm<sup>2</sup>
  - c. 18.84 cm<sup>2</sup>
  - d. 14.13 cm<sup>2</sup>
27. Find the length of c based on the right triangle below.



- a. 7 cm
  - b. 10 cm
  - c. 14 cm
  - d. 20 cm
28. What is the surface area, in square inches, of a cube if the length of one side is 3 inches?
- a. 9
  - b. 27
  - c. 54
  - d. 18

29. Which of the following values is closest to the diameter of a circle with an area of 314 square inches?
- 20 inches
  - 10 inches
  - 100 inches
  - 31.4 inches
30. A circle has a perimeter of 35 feet. What is its diameter?
- 11.14 feet
  - 6.28 feet
  - 5.57 feet
  - 3.5 feet
31. Two angles of a triangle measure 15 and 70 degrees, respectively. What is the size of the third angle?
- 90 degrees
  - 80 degrees
  - 75 degrees
  - 95 degrees
32. A metal rod used in manufacturing must be as close as possible to 15 inches in length. The tolerance of the length,  $L$ , in inches, is specified by the inequality  $|L - 15| \leq 0.01$ . What is the minimum length permissible for the rod?
- 14.9 inches
  - 14.99 inches
  - 15.01 inches
  - 15.1 inches
33. The town of Fram will build a water storage tank on a hill overlooking the town. The tank will be a right circular cylinder of radius  $R$  and height  $H$ . The plot of ground selected for the installation is large enough to accommodate a circular tank 60 feet in diameter. The planning commission wants the tank to hold 1,000,000 cubic feet of water, and they intend to use the full area available. Which of the following is the minimum acceptable height?
- 655 ft
  - 455 ft
  - 355 ft
  - 255 ft
34. A teacher can grade 20 math tests per hour. If she starts grading test at 10:30 a.m., which of the following is the best estimate as to when she will be done grading 134 tests?
- 3:00 p.m.
  - 4:00 p.m.
  - 4:30 p.m.
  - 5:00 p.m.
35. Define this symbol:  $A \cap B$
- A is a subset of B.
  - The set of all elements that are in A or B, or both.
  - The set of all elements that are in both A and B.
  - A set with no elements.

36. Translate the following into mathematical symbols:  
The quotient of 56 and a number is 8
- a.  $56/x = 8$
  - b.  $56x = 8$
  - c.  $x/56 = 8$
  - d.  $8 \bullet 56 = x$
37. What is the next number in the series?  
132, 123, 115, 108, 102
- a. 82
  - b. 87
  - c. 92
  - d. 97
38. What is the mode of the following numbers?  
37, 46, 52, 52, 61, 63
- a. 37
  - b. 52
  - c. 55
  - d. 311
39. If  $a = 3$  and  $b = 4$ , simplify the following expression:  $6a + b - 7$
- a. 12
  - b. 15
  - c. 20
  - d. 22
40.  $10x - 36 + 4x - 6 + x = 3$ . What is the value of  $x$ ?
- a. 3
  - b. 4
  - c. 6
  - d. 10

## Social Studies

1. Peter the Great's reign was dominated by his efforts to
  - a. keep Portugal out of the War of Spanish Succession.
  - b. create a reform program called the Peronismo.
  - c. modernize and Westernize Russia.
  - d. prevent the union of England and Normandy.
2. Which list is in the correct chronological order?
  - a. Great Schism, Norman Conquest, French Revolution
  - b. Great Schism, French Revolution, Norman Conquest
  - c. Norman Conquest, Great Schism, French Revolution
  - d. French Revolution, Norman Conquest, Great Schism
3. Marxism had a profound influence on the development of
  - a. the Bolshevik political movement.
  - b. Autumn Harvest Uprising.
  - c. the National Socialist German Workers' Party
  - d. the Greek Civil war
4. The Lincoln-Douglas debates resulted in
  - a. the declaration of Illinois as a slave state.
  - b. the split of the Democratic Party.
  - c. the election of Douglas as president in 1860.
  - d. the election of Lincoln to the senate in 1858.
5. What major U.S. event took place around the same time that the Judiciary Act set up the federal judiciary system?
  - a. The Neutrality Act was passed.
  - b. The United States entered WWII.
  - c. The Korean War ended.
  - d. George Washington was inaugurated president.
6. What invention increased the value and demand for slaves in the South?
  - a. the combine
  - b. the steam engine
  - c. the cotton gin
  - d. the automobile
7. What significance did *Brown v. Board of Education of Topeka* have on the system of education in the United States?
  - a. Students were educated separately but equally.
  - b. Students were taught creationism.
  - c. Students were taught evolution.
  - d. The "separate but equal" ruling was reversed.

8. What was generally the sentiment towards Chinese laborers in the United States in 1882?
- Chinese laborers were viewed as cheap laborers and were generally discriminated against.
  - Chinese laborers were highly valued members of the United States society.
  - Chinese laborers were forced out of the country.
  - Chinese laborers were welcomed through several immigration laws.
9. Iran, Iraq, and Kuwait all border what body of water?
- Indian Ocean
  - Red Sea
  - Persian Gulf
  - Caspian Sea
10. The majority of residents of Brazil identify themselves as
- Roman Catholic
  - Buddhist
  - Muslim
  - Jewish
11. Which economic/political system has the following characteristics:
- private ownership of property
  - property and capital provides income for the owner
  - freedom to compete for economic gain
  - profit motive driving the economy.
- fascism
  - capitalism
  - communism
  - Marxism
12. Which of these would **not** be found in a democracy?
- a congress
  - a parliament
  - a prime minister
  - a dictator
13. A researcher is collecting data for her study on parenting. She hypothesized that countries where mothers carry their infants on their person have children who have more secure attachments as toddlers. Which method would be the most helpful in collecting data for this study?
- Interviewing parents in the United States about their methods of carrying babies.
  - Determining methods of carrying babies and studying the toddlers in several countries.
  - Researching popular methods of carrying infants on the internet.
  - Collecting data on the number of strollers sold in several countries.

Question 14 refers to the following chart:

<b>Jail Inmates by Sex and Race</b>				
Year	1990	1995	2000	2005
Male	365,821	448,000	543,120	646,807
Female	37,198	51,300	70,414	93,963
Juveniles	2,301	7,800	7,613	6,759
White	169,600	203,300	260,500	331,000
Black	172,300	220,600	256,300	290,500
Hispanic	58,100	74,400	94,100	111,900

[Source: U.S. Dept. of Justice; does not include federal or state prisons.]

14. Based on the chart, which of the following statements is NOT accurate?
- Fewer women than men are incarcerated in each year sampled.
  - The rate of jail incarceration rose for every subgroup of prisoner.
  - In 2000 and in 2005, more whites were incarcerated in jails than any other race.
  - Rate of Hispanic jailing has steadily increased over the fifteen years represented.
15. Which institution is responsible for promoting international peace and maintaining observance of international law?
- United Nations
  - British Parliament
  - European Economic Community
  - Southeast Asia Treaty Organization
16. What events took place while Joseph Stalin was in power?
- Russian Revolution of 1905
  - World War II
  - Russo-Japanese War
  - Punic Wars
17. What contributed to the weakening and collapse of the League of Nations?
- The failure of the United States to join
  - The beginning of World War I
  - The signing of the Treaty of Versailles
  - The beginning of the Persian Wars
18. Who became the commander of the Confederate army of northern Virginia at the beginning of the Civil War?
- Abraham Lincoln
  - Thomas "Stonewall" Jackson
  - Robert E. Lee
  - Jefferson Davis

19. Which list is in the correct chronological order?
- Great Depression, Revolutionary War, first moon landing
  - Revolutionary War, first moon landing, Great Depression
  - First moon landing, Great Depression, Revolutionary War
  - Revolutionary War, Great Depression, first moon landing
20. Which invention had a major role in communication during the Civil War?
- Morse Code
  - Telephone
  - Radio
  - Computer
21. The Dred Scott case involved the Supreme Court ruling on
- Women's voting rights
  - Civil rights
  - Miranda Rights
  - Right to an attorney
22. The Andes Mountain Range is located on which continent?
- North America
  - South America
  - Australia
  - Asia
23. What ornamental figures are found in Gothic architecture?
- dragons
  - phoenixes
  - gargoyles
  - Tuscan columns
24. What effect does the Sahara Desert have on trade?
- Caravans have to skirt the desert.
  - Oases make trade possible.
  - Due to massive amounts of rain, trade routes are unpredictable.
  - Trade across the Sahara Desert has never existed due to the inhospitable conditions.
25. India's economy can be best described as
- a third-world country.
  - one of the lowest producing economies in the world.
  - a market-based system.
  - an agricultural stronghold.
26. Which of the following countries can be described as a constitutional democratic monarchy?
- Thailand
  - Mexico
  - Australia
  - South Africa

Question 27 refers to the following passage:

Islam spread to Europe during the medieval period, bringing scientific and technological insights. The Muslim emphasis on knowledge and learning can be traced to an emphasis on both in the Qur'an [Koran], the holy book of Islam. Because of this emphasis, scholars preserved some of the Greek and Roman texts that were lost to the rest of Europe. The writings of Aristotle, among others, were saved by Muslim translators. Islamic scholars modified a Hindu number system, which became the more commonly used Arabic system, which replaced Roman numerals. They also developed algebra and invented the astrolabe, a device for telling time that also helped sailors to navigate. In medicine, Muslim doctors cleaned wounds with antiseptics, closed the wounds with gut and silk sutures, and were among the first to use sedatives.

27. Based on the information above, which of the following conclusions is likely true?
- a. People of Muslim faith were braver than others when facing surgery.
  - b. Fewer Muslim patients died of wound infections than did their European counterparts.
  - c. The silk market expanded because of the Muslim use of silk sutures.
  - d. No one would read Aristotle today had the Muslims not saved the translations.

Questions 28 and 29 refer to the following chart:

<b>United States Foreign Trade 1960–1970 (by Category Percentages)</b>				
Category	1960		1970	
	Exports	Imports	Exports	Imports
Chemicals	8.7	5.3	9.0	3.6
Crude materials (except fuel)	13.7	18.3	10.8	8.3
Food and beverages, including tobacco	15.6	22.5	11.8	15.6
Machinery and transport	34.3	9.7	42.0	28.0
Mineral fuels and related materials	4.1	10.5	3.7	7.7

28. In 1960, which of the following categories had the greatest disparity between percentage of both exports and imports?
- a. chemicals
  - b. crude materials
  - c. food and beverages
  - d. machinery and transport



29. Which category saw the greatest percentage decrease in imports between 1960 and 1970?

- a. chemicals
- b. crude materials
- c. food and beverages
- d. machinery and transport

Questions 30 and 31 refer to the following chart:

**Women in the Labor Force, Selected Years**

Year	Women in Labor Force (thousands)	Percentage of Total Labor Force
1900	5,114	18.1
1920	8,430	20.4
1940	12,845	24.3
1950	18,412	28.8
1970	31,560	36.7

30. In what year on the chart did women first make up more than 25 percent of the total labor force?

- a. 1900
- b. 1920
- c. 1940
- d. 1950

31. How could you express the change in percentage of women as part of the total labor force from 1900 to 1970?

- a. The percentage rate declined by half.
- b. The percentage rate remained steady.
- c. The percentage rate doubled.
- d. The percentage rate fluctuated up and down over the years.

32. When the euro was introduced in January 2002, a single euro was valued at 88 cents in United States currency. In the summer of 2008, at one point it required \$1.60 U.S. to buy 1 euro. In late October 2008, the euro fell to its lowest level against the dollar in two years.

Which of the following statements represents an accurate conclusion?

- a. The world in 2008 was headed for another Great Depression.
- b. The dollar regained strength after significant devaluing against the euro.
- c. The euro remains the world's strongest currency.
- d. Investors need to keep buying stocks.

33. In 1957, President Dwight Eisenhower sent federal troops to Little Rock, Arkansas.

They were to enforce integration at Little Rock Central High School, although the governor of the state had tried to prevent integration. Eisenhower's action is an example that illustrates

- a. showing a governor that he had no real power in state government.
- b. trying to keep federal troops out of Vietnam.
- c. states' rights being more important than federal law.
- d. upholding federal law if state or local officials will not.

Questions 34 – 36 refer to the following chart:

<b>Ethnic Groups in Selected Central American Countries</b>					
Country	Honduras	Nicaragua	El Salvador	Costa Rica	Belize
Mestizo [European and Native American]	90%	69%	90%		49%
Amerindian	7%	5%	1%	1%	
Black	2%	9%		3%	
White	1%	17%	9%	94%	
Chinese				1%	
Creole [African and European]					25%
Maya					11%

34. To which nation would you go to study the living traditions of the Mayans?
- Honduras
  - Costa Rica
  - Belize
  - Nicaragua
35. Which of the following conclusions is valid?
- The Creole population is the largest ethnic group in Latin America.
  - The Maya have completely died out.
  - Few people in Nicaragua are of mixed heritage.
  - The Amerindian population of many Central American countries was destroyed by war and disease.
36. Based on your general knowledge, how do you explain the large Creole population of Belize?
- Belize is near the Caribbean, where many Africans were once enslaved.
  - Belize has long been a trading partner with West African nations.
  - Many Creole who once lived in New Orleans left after Hurricane Katrina.
  - The Creole came to Belize to start new restaurants.
37. Which of the following countries is NOT located along the Indian Ocean?
- Cameroon
  - Somalia
  - Mozambique
  - Kenya

38. ARTICLE XXVII (Ratified July 1, 1971) of the United States Constitution states:  
*Section 1. The right of citizens of the United States, who are eighteen years of age or older, to vote shall not be denied or abridged by the United States or by any State on account of age.*

This amendment to the Constitution was ratified in part because of what historical reality?

- a. Women gained the right to vote.
- b. Suffrage was extended to all African Americans.
- c. Young men were being drafted to serve in the Vietnam War.
- d. The number of people under 21 years of age increased.

Questions 39 and 40 refer to the following passage:

In 1969, 13 African American members of the House of Representatives gathered to form the Congressional Black Caucus (CBC). They felt that a unified voice for minorities was needed. President Richard Nixon met with the group two years later; his weak response to their list of 60 recommendations increased their efforts. These efforts included ending apartheid in South Africa, reforming welfare, expanding educational opportunities and development of businesses by minorities. For nearly 20 years, the CBC has proposed an alternative annual budget; it generally varies widely from the budget that the president submits. In 2008, the organization has 43 members from both urban and rural areas. The CBC is sometimes called the conscience of Congress.

39. Which of the following statements is true?
- a. The Congressional Black Caucus was founded immediately following the Civil War.
  - b. The major goal of the CBC is to elect an African American president.
  - c. Since its founding, the organization has grown by about 30 members.
  - d. The first president to recognize the CBC was Jimmy Carter.
40. Which of the following statements is an opinion?
- a. The Congressional Black Caucus began in 1969.
  - b. The CBC is often referred to as Congress's conscience.
  - c. Every year for two decades, the CBC has proposed a national budget.
  - d. Apartheid was the worst political system of the twentieth century.

## Writing Prompt

Imagine you are attending a college that is contemplating a change to electronic textbooks. All students who attend the school will be offered the opportunity to access their textbooks through an electronic textbook search engine. Supporters argue that switching to the e-textbooks will save students money and will be a more environmentally friendly choice over traditional printed textbooks.

The Student Council has asked students to submit statements expressing their opinions on the issue, and you have decided to submit a statement.

In an organized, coherent, and supported essay directed to the Student Council, explain what you think the college should do and why it should do so. Address the pros and cons of switching to an electronic textbook system.

# Answer Key and Explanations

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## English Language Arts

1. C: Point of view refers to the vantage point from which a story is written. First person uses the pronoun *I*. Second person uses the pronoun *you*. Third person uses the pronouns *he/she/they*. There is no fourth person point of view. This passage was written in the third person.
2. B: The words “mysterious” and “important” used in the sentence help the reader deduce that Jo looked secretive. Jo neither looked jubilant, or joyful; disheveled, or disarrayed; or angry.
3. C: The last sentence states that Laurie was “an incorrigible tease.” From this statement you can infer that Laurie was unruly or unmanageable. Stoic means not showing passion or emotion. Taciturn means silent. Uncanny means supernatural. There is nothing in the passage to imply he had any of these characteristics.
4. D: Personification is a metaphor in which a thing or abstraction is represented as a person. Personification is used throughout this poem. However, of the answer choices given, line 11 is the best choice. The author personifies spring as a female.
5. A: The fifth stanza gives clues to whom “we” refers.  
“Not one would mind, neither bird nor tree  
If mankind perished utterly”  
“We” is referencing mankind.
6. B: This is an example of a rhymed verse poem. The last two words of each line rhymes in every stanza. A sonnet is a poem of fourteen lines following a set rhyme scheme and logical structure. Often, poets use iambic pentameter when writing sonnets. A free verse poem is written without using strict meter or rhyme. A lyric poem is a short poem that expresses personal feelings, which may or may not be set to music.
7. A: Answer choice A gives the best summary of the poem. The poem imagines nature reclaiming the earth after humanity has been wiped out by a war. The poet imagines how little the human race will be missed.
8. D: According to the passage, a prehistoric artifact is an item used by humans prior to written history. The other answer choices are details included in the passage, but not the definition of prehistoric artifacts.
9. A: The first paragraph gives the definition of an archaeological site, choice A. The other answer choices are details covered in the passage, but not the main idea of the first paragraph.
10. B: Since the passage states that recent artifacts are not of archaeological significance, a logical implication is that a site containing recent artifacts would not be of interest to an

archaeologist. Answer choices A, C, and D are not true based on the information given in the passage.

11. C: Since this passage is about the characteristics of human behavior, it can be inferred that Mary Ainsworth is a psychologist. A botanist studies plants. A biologist studies plant and animal life. An entomologist studies insects.

12. B: This passage describes four major patterns of infant attachment.

13. B: This passage addresses infant behavior and would most likely be found in a human development textbook.

14. D: The paragraph that describes the avoidant attachment pattern states that the infant acts as if the mother is of no importance.

15. C: Naturalism is a type of realistic fiction. The Naturalist movement took place in France, America, and England in the late 19th and early 20th centuries. Naturalists believed that people were controlled by both outer and inner forces.

16. C: Thomas Hardy wrote *Tess of the D'urbervilles* in 1891. This novel is about a young girl who is seduced and ends up pregnant. Hardy also wrote *Far from the Madding Crowd* and *Return of the Native*. All of his novels were criticized because the plots and characters were seen as indecent and immoral.

17. D: Virginia Woolf had a powerful effect on the modern novel. Other authors that influenced the Modernist movement include T. S. Eliot, Ezra Pound, James Joyce, and Gertrude Stein. The Modernist movement took place in the late 19th and early 20th centuries. The authors questioned traditional forms of literature and in doing so, wrote novels and poems that were full of modern thought.

18. A: Toni Morrison's novels focus on black women and their search for a place within American culture and society. She often uses fantasy to explore the themes of racism, gender bias, and class conflict. She is both a Nobel Prize and Pulitzer Prize winner. Her novels include *The Bluest Eye*, *Sula*, *Song of Solomon*, and *Beloved*.

19. C: Authors of the Contemporary movement wrote from 1945 to the present. George Orwell wrote *Animal Farm* in 1945 and *1984* in 1949.

20. B: Heathcliff and Catherine are main characters in *Wuthering Heights*, written by Emily Bronte in 1847.

21. A: Clustering is a prewriting strategy. The writer starts with a circle in the middle that contains a main idea and then draws lines to other, smaller circles that contain sub-ideas or issues related to the main idea. Other prewriting strategies include free-writing, brainstorming, tagmemics, and journalistic techniques.

22. C: The headings and subheadings of a topic outline are words or phrases, and it is brief. The headings and subheadings of a sentence outline are full sentences, and it is longer and more detailed.

23. A: The best source for information would be a medical journal. While the other sources may have information on the topic, the medical journal would have the most reliable information.
24. B: No matter what the tense of the main part of a sentence, the verb that follows *after* should be in the simple present (*arrive*) or the simple past (*arrived*). In this
25. B: Use *graduate* with the preposition *from*, unless the noun comes first in the sentence.
26. D: Although brainstorming can be used as part of the prewriting step, it is not main step in the writing process. The five steps of the writing process are Prewriting, Drafting, Revising, Editing, and Publishing.
27. C: The goal of the drafting stage is to get ideas down on paper without undue concern for mechanics. Errors will be corrected in the editing stage.
28. D: There are four main components to an effective outline. Subordination means that the information in the heading is more general, while the subheadings are more specific. For example:
- I. Visit and Evaluate College Websites
    - A. Note important statistic
    - B. Look for interesting classes

The other three components of an effective outline include parallelism, coordination, and division.

29. B: Revising is the time to reconsider the topic, the audience, and the purpose of writing. Rethinking the approach may lead to major changes in content and structure.

30. C: The passive voice is used to eliminate the necessity of naming the agent of the action when the agent is unknown or unimportant. Here is an example of this sentence using the active voice:

*Prison authorities released James from prison in 1951.*

31. A: A compound-complex sentence has two or more independent clauses and one or more dependent clauses.

32. C: Parallel sentence structure uses parallel grammatical form between coordinated elements. Option C uses the following grammatical structure after the word law: adjective--adjective--adjective.

33. B: When a sentence begins with a modifying word, phrase, or clause, the subject must be modified by that modifier. When a modifier improperly modifies something, it is called a "dangling modifier." Option B introduces a person into the subject position and corrects the dangling modifier.

34. B: The subject of this sentence is *the baking* and the verb is *have increased*. However, *baking* is a singular subject, so the correct verb form is *has increased*. This is an example of incorrect subject-verb agreement.

35. A: This is an adjective and adverb error. Adjectives modify nouns and pronouns; adverbs modify verbs, adjectives, and other adverbs. *Attentive* is modifying Jonas' diligence. *Tries* is a verb, so *diligent* needs to be an adverb to make this sentence grammatically correct.

No matter how diligently Jonas tries, he still fails to complete his homework.

36. C: This sentence contains both a homonym error (their/there) and a confused pair (annoy/aggravate). The use of *aggravate* to mean *annoy* is sometimes objected to because it departs from the etymological meaning "to make heavier."

37. A: This is an example of superfluous commas.

38. D: When conjunctive adverbs (*however*, *furthermore*, and *therefore*) are used in place of coordinating conjunctions to combine two sentences into one a semicolon is needed before the conjunctive adverb.

39C: "Who" is the subject form of the pronoun and "whom" is the object form. This sentence should read:

"The teacher gave stickers to whoever had stood in line quietly."

40. D: The titles of books, movies, plays, magazines and newspapers are written in italics. The titles of poems, stories, and paintings are written with quotation marks.



## Science

1. C: The best control group would be women with wrinkles around their eyes using a harmless cream that has no effect. A scientific control group is used to minimize the unintended influence of other variables on a scientific study. Such extraneous variables include researcher bias, environmental changes, and biological variation. Scientific controls ensure that data are valid, and are a vital part of the scientific method.
2. D: The Scientific method is set of steps used to solve scientific problems. The steps are making an observation, asking a question, formulating a hypothesis, conducting an experiment, analyzing data, and drawing a conclusion. Independent variables are used in experiments to ensure that only a single variable is tested.
3. A: An erg is a centimeter-gram-second unit of energy. An ergometer is used to measure ergs. They are often used on exercise equipment. Portable ergometers can be mounted on bicycles to measure the rider's energy expenditure. A nanometer is a measurement of length. A milligram is a unit of mass or weight. A cubic centimeter is measurement of volume.
4. C: In scientific notation, the numerical portion will be "7.36". Count how many places the decimal point has to move to get from where it is now to where it needs to be. The power on 10 has to be -8 because that's how many places the decimal point needs to be moved.
5. C: All three measurements differ in value from the true length. This means they are not accurate. However, all three the measurements are equal in, so they are precise.
6. A: In order for something to be considered scientific fact, the results must be repeatable. Scientific study does not always take place in a laboratory. Scientific fact is never based on a single event. Only after the same experiments are conducted numerous times with the same results is the hypothesis accepted as fact. Science is not based on opinions.
7. A: Meiosis is a process that cuts the number of chromosomes per cell is cut in half. In animals, meiosis results in the formation of gametes, while in other organisms it results in spores.
8. A: A food chain shows how energy is transferred from one organism to another. A producer uses the energy from the sun to make its own food. Most of the energy in a food chain is in the level of the producer.
9. B: A mixture of NaCl and H<sub>2</sub>O is salt and water. The only way to separate salt from water is to boil the mixture which evaporates the water, leaving the salt behind.
10. B: Movement of the ground, or an earthquake, generates seismic waves. These movements can be detected with a sensitive instrument called a seismograph.

11. D: The graph shows that temperatures in the lower stratosphere are  $-50^{\circ}\text{C}$  or lower, permitting more efficient engine operation. The text indicates that 75% of the Earth's atmosphere is in the troposphere, which is below the stratosphere. It also states that convective mixing of air, and therefore the effects of weather, are characteristic of the troposphere. In the stratosphere, temperature-based layering of air leads to a stable environment. All of these effects combine to allow jets to operate with the best fuel efficiency possible in the lower reaches of the atmosphere.

12. D: This can be read from the graph. The thermosphere contains both the coldest and the highest temperatures in the atmospheric regions beneath outer space. In the thermosphere, atmospheric gases form layers of relatively pure molecular species. In its lower reaches,  $\text{CO}_2$  contributes to cooling through radiative emission, as in the mesosphere. In its upper reaches, molecular oxygen absorbs solar radiation and causes significant warming.

13. B: Sexual reproduction allows the genetic information from two parents to mix. Recombination events between the two parental copies of individual genes may occur, creating new genes. The production of new genes and of new gene combinations leads to an increase in diversity within the population, which is a great advantage in terms of adapting to changes in the environment.

14. D: The charge must be conserved in the reaction. Since the reactants, two helium atoms, each have two protons, they will have a total electric charge of +4. The reaction product, helium-4, also has two protons, and therefore has a total charge of +2. Two positive charges are lacking to balance the reaction. Of the choices given, only D, with two protons, has a charge of +2.

15. B: Since tritium is an isotope of hydrogen, the nucleus contains a single proton, giving it a charge of +1. The extra neutrons do not contribute to the charge. Electrons have a charge of -1. In order to neutralize the single positive charge of the nuclear proton, a single orbiting electron is required.

16. B: The vertical axis of this graph is an exponential scale, with each regularly-spaced tick mark corresponding to a ten-fold increase in the quantity being measured. The curve corresponding to the control cells, those grown in the absence of the drug, shows a cell concentration of approximately 500 cells/mL at the start, 5000 cells/mL after 4 days, and 50,000 cells per mL after 8 days, indicating an exponential growth pattern in which the number of cells increases by a factor of ten every four days.

17. D: The effects of two concentrations of methotrexate (MTX) on the growth of cancer cells are shown by the open pentagons and solid squares in the figure. These growth curves may be compared to the growth of untreated cells (the control) shown by the solid circles. It can be seen that, at a concentration of 10 micromoles per liter (10 micromolar), cell growth is slightly inhibited when compared to the control. At the greater concentration of 100 micromoles per liter (equivalent to 0.1 millimolar), the cells do not grow at all. The experiment is concerned with cancer cells, not bacteria, so choice B is incorrect.

18. C: The heterozygous parent will have the genotype Bb and the homozygous parent will have the genotype bb. The possible genotypes of the offspring are Bb, Bb, bb, and bb. Thus,

50 percent of the offspring will be homozygous and 50 percent will be heterozygous. Birth order is not important as each child has the same probability of having blue eyes.

19. A: A solar eclipse is when the moon moves between the Sun and the Earth. When viewed from the Earth, the moon and the Sun are about the same size, and thus the moon can completely block the sun.

20. C: Pollination is the fertilization of plants. It involves the transfer of pollen from the anther to the stigma, either by wind or by insects.

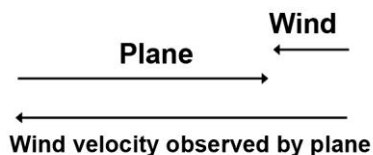
21. C: Energy is lost when matter is transferred from one trophic level to another. It requires energy to produce the food for the cattle, and therefore it takes more energy to produce beef than any of the plant crops.

22. D: Volcanic activity allows molten magma to reach the surface of the Earth, where it cools and solidifies into rock—a process akin to freezing. As the diagram and text both indicate, these types of rocks are known as igneous rocks. Examples of igneous rocks are obsidian and basalt. The type of igneous rock formed depends upon the chemical composition of the magma.

23. B: Metamorphic rocks (“metamorphic” means “changed form”) are formed at great depths, usually from sedimentary precursors. As more and more sediment accumulates above them, the increased pressure and heat forces the relatively open crystal structure of the sedimentary rocks to collapse and adopt a denser structure. Examples of metamorphic rocks are quartz and gneiss.

24. B: The flaw in this study is that it does not observe a single variable, but several variables at the same time. The participants were taking aspirin and participating in a health regime.

25. A: The velocities of both the wind and the aircraft can be represented by vectors, with the length of the vector representing the speed, and the direction of the vector representing the direction of either the wind or the airplane. Since the wind speed opposes that of the plane, the pilot will measure the sum of the actual wind speed plus that of his aircraft:



26. C: Since the winter is most unfavorable for plant growth in North America, some plants go dormant during this season.

27. A: A microliter is a millionth of a liter.

28. A: Move the decimal point six positions to the right.

29. D: Oxidation, also known as rusting, is the result of a change in the chemical composition of the iron.
30. C: The chart shows that plastic and cardboard materials both comprise 15% of the collected materials, and therefore it is incorrect to say that there is more plastic than cardboard. They are present in equal quantities.
31. C: If the bat was found in the lava from a volcanic eruption dated in 79 A.D., it is a reasonable conclusion that the bat came from that period.
32. C: To determine if this bat is from a particular species, the remains must be compared with the remains of the other members of the species.
33. D: A tsunami, sometimes referred to as a tidal wave, is a large wave or series of waves caused by the displacement of a large volume of water. While the most common cause is an earthquake, large landslides (either falling into the sea or taking place under water) or explosive volcanic action may also result in a tsunami.
34. D: The term *hydrologic cycle* is defined in the first paragraph, where it is described as being equivalent to the *water cycle*. It is derived from the Greek root *hydros*, which means “water.”
35. B: The second paragraph gives examples of different storage reservoirs for water in the water cycle. Underground aquifers are one of the examples given. An *aquifer* (a word derived from the Latin roots *aqua*—meaning water, and *ferre*—meaning “to bear”) is any geologic formation containing ground water.
36. D: According to the table, the average residence time of water in soil is only two months. Only its residence time in the atmosphere, 9 days, is shorter. Residence time is defined in the text as the average amount of time that a water molecule spends in each of the reservoirs shown in the table before it moves on to the next reservoir of the water cycle.
37. B: According to the final paragraph of the text, ocean levels actually fall during an ice age. This is because more water is stored in ice caps and glaciers when the prevailing temperatures are very cold, and therefore less water remains in the oceans.
38. B: A barometer is an instrument for measuring atmospheric pressure, used especially in weather forecasting.
39. D: Sn is the symbol for tin.
40. C: A pipette is used to transport a measured volume of liquid. Graduated cylinders are used to measure liquids. A beaker is used for stirring, mixing, or heating liquids. They can be used to measure liquids, but are less accurate than a graduated cylinder. A slide holds objects for examination under a microscope.

## Mathematics

1. B: 25% off is equivalent to,  $25 \times \frac{\$138}{100} = \$34.50$  and therefore the sale price becomes:  $\$138 - \$34.50 = \$103.50$ .
2. D: Inspection of the data shows that the distance traveled by the car during any 1-unit interval (velocity) is 20 units. However, the first data point shows that the car is 50 units from the point of origin at time 2, so it had a 10-unit head start before time measurement began. Answers A-C only fit the data at single points. They do not fit the whole set.
3. D: The fraction of those playing drums plus the fraction of those playing a brass instrument must total 1. The number that play drums is therefore  $pn$ , and the number playing brass must be  $(1-p)n$ .
4. C: The intersection of two sets,  $A$  and  $B$ , is the set that contains all elements of  $A$  that also belong to  $B$  (or equivalently, all elements of  $B$  that also belong to  $A$ ), but no other elements.
5. C: An irrational number is a real number that cannot be expressed as a ratio of two integers.
6. A: The commutative property states that changing the order of something does not change the end result.
7. B: The probability of playing a song by any band is proportional to the number of songs by that band over the total number of songs, or  $\frac{5}{15} = \frac{1}{3}$  for Band D. The probability of playing any particular song is not affected by what has been played previously, because the choice is random.
8. A: Since 3 of the 15 songs are by Band B, the probability that any one song will be by that band is  $\frac{3}{15} = \frac{1}{5}$ . The probability that two successive events will occur is the product of the probabilities for any one event or, in this case,  $\frac{1}{5} \times \frac{1}{5} = \frac{1}{25}$ .
9. B: The lowest score, 68, is eliminated. The average of the remaining four grades is:
$$Avg = \frac{75 + 88 + 86 + 90}{4} = 84.75$$
Rounding up to the nearest integer gives a final grade of 85.

10. A: This expression can be simplified by identifying like terms and then grouping and combining like terms:

+6x and +4x are like terms, and can be combined to give +10x,

+2y and +5y combine to give +7y, and

-3 and +6 combine to give +3.

Therefore after simplifying, this expression becomes:

$$10x + 7y + 3$$

11. B: Use the order of operations to find the value for this expression: parentheses, exponents, multiplication and division, addition and subtraction:

$$\begin{aligned} & -3 \times 5^2 + 2(4-18) + 33 \\ & = -3 \times 5^2 + 2(-14) + 33 \\ & = -3 \times 25 + 2(-14) + 33 \\ & = -75 + (-28) + 33 \\ & = -70 \end{aligned}$$

12. C:  $16.5 \times \frac{4}{3} = 22$

13. B:  $30\% \text{ of } 3300 = 0.3 \times 3300 = 990$

14. C: The total distance traveled was  $8 + 3.6 = 11.6$  miles. The first  $\frac{1}{5}^{\text{th}}$  of a mile is charged at the higher rate. Since  $\frac{1}{5}^{\text{th}} = 0.2$ , the remainder of the trip is 11.4 miles. Thus the fare for the distance traveled is computed as  $\$5.50 + 5 \times 11.4 \times \$1.50 = \$91$ . To this the charge for waiting time must be added, which is simply  $9 \times 20\text{¢} = 180\text{¢} = \$1.80$ . Finally, add the two charges,  $\$91 + \$1.80 = \$92.80$ .

15. B: First determine the proportion of students in Grade 5. Since the total number of students is 180, this proportion is  $\frac{36}{180} = 0.2$ , or 20%. Then determine the same proportion of the total prizes, which is 20% of twenty, or  $0.2 \times 20 = 4$ .

16. B: Given the equation  $x + 16 = 3x + 32$ ,

Subtract x from each side:

$$16 = 2x + 32$$

Subtract 32 from each side.

$$-16 = -2x$$

Divide both sides by 2:

$$x = -8$$

17. C: First write "46 is less than" using 46 and the less than symbol:

$$46 <$$

Difference means subtract. When "difference of" is used, write the numbers in the same order as they appear in the sentence:

$$17 - x$$

The sentence should read:

$$46 < 17 - x$$

18. A: The inequality is solved by writing a double inequality equivalent to the given inequality but without absolute value:

$$-9 < x + 6 < 9$$

Solve the double inequality by subtracting 6:

$$-15 < x < 3$$

The above solution set is written in interval form as follows:

$$(-15, 3)$$

19. D: Write the quadratic equation with right side equal to 0.

$$x^2 + 3x + 2 = 0$$

Factor the equation.

$$(x + 2)(x + 1) = 0$$

Set each equation to equal zero.

$$x + 2 = 0 \text{ or } x + 1 = 0$$

Solve each equation:

$$x = -2 \text{ and } x = -1 \text{ or } x = -2, -1$$

20. D: A reflex angle measures more than  $180^\circ$ . An angle that measures less than  $90^\circ$  is an acute angle. An angle that measures more than  $90^\circ$ , but less than  $180^\circ$  is an obtuse angle. An angle that measures  $180^\circ$  exactly is a straight angle.

21. A: A rhombus is four-sided polygon having all four sides of equal length. The sum of the angles of a rhombus is 360 degrees.

22. C: Similar polygons are polygons for which all corresponding angles are congruent and all corresponding sides are proportional.

23. D: To find the perimeter of a triangle, take the sum of the length of each side.

24. D: The formula for the area of a circle is  $A = \pi r^2$ .

$$A = \pi \cdot r \cdot r$$

$$A = 3.14 \cdot (6 \text{ in}) \cdot (6 \text{ in})$$

$$A = 3.14 \cdot (36 \text{ in}^2)$$

$$A = 113.04 \text{ in}^2$$

25. C: The formula for the volume of a cube is  $V = L^3$ .

$$12^3 = 1,728 \text{ cm}^3$$

26. A: The formula for the surface area of a sphere is  $A = 4\pi r^2$ .

$$A = 4 \cdot \pi \cdot r \cdot r$$

$$A = 4 \cdot 3.14 \cdot (1.5 \text{ cm}) \cdot (1.5 \text{ cm})$$

$$A = 12.56 \cdot (2.25 \text{ cm}^2)$$

$$A = 28.26 \text{ cm}^2$$

27. B: Use the Pythagorean Theorem to solve this problem:  $a^2 + b^2 = c^2$

$$\begin{aligned}8^2 + 6^2 &= c^2 \\64 + 36 &= c^2 \\100 &= c^2 \\\sqrt{100} &= 10\end{aligned}$$

28. C: The surface of a cube is obtained by multiplying the area of each face by 6, as there are 6 faces. The area of each face is the square of the length of one edge. Therefore,  
 $A = 6 \times 3^2 = 6 \times 9 = 54$ .

29. A: The area  $A$  of a circle is given by  $A = \pi \times r^2$ , where  $r$  is the radius. Because  $\pi$  is approximately 3.14, we can solve for  $r = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{314}{3.14}} = \sqrt{100} = 10$ . Now, the diameter  $d$  is twice the radius, or  $d = 2 \times 10 = 20$ .

30. A: The perimeter of a circle is given by  $2\pi r$ , where  $r$  is the radius. We solve for  $r = \frac{35}{2\pi} = 5.57$ , and double this value to obtain the diameter  $d = 11.14$  feet.

31. D: The sum of angles in a triangle equals 180 degrees. Therefore solve for the remaining angle as  $180 - (15 + 70) = 95$  degrees.

32. B: The inequality specifies that the difference between  $L$  and 15 inches must be less or equal to 0.01. For choice B,  $|14.99 - 15| = |-0.01| = 0.01$ , which is equal to the specified tolerance and therefore meets the condition.

33. C: The volume of a right circular cylinder is equal to its height multiplied by the area of its base,  $A$ . Since the base is circular,  $A = \pi R^2$ , where  $R$ , the radius, is half the diameter, or 30 feet. Therefore:

$$V = H \times \pi R^2$$

Solving for  $H$ ,

$$H = \frac{V}{\pi R^2} = \frac{1,000,000}{\pi \times 30^2} = \frac{1,000,000}{\pi \times 900} = 353.7 \text{ ft}$$

34. D: The teacher is grading 134 tests, which can be estimated at 130 tests. Divide the total number of tests by the number of tests she can grade in an hour to determine how many hours it will take to grade the tests:

$$130 \div 20 = 6.5 \text{ hours}$$

She started grading at 10:30 a.m., so 6.5 hours later will be 5:00 p.m.

35. C: This is the symbol for set intersection. "A intersect B" is the set of all elements that are in both A and B.

36. A: The quotient means divide. 56 is the numerator and  $x$  is the denominator. "Is 8" means "equals 8." The problem should read:  $56/x = 8$



37. D: The pattern is subtracting one less number each time:

$$132 - 9 = 123$$

$$123 - 8 = 115$$

$$115 - 7 = 108$$

$$108 - 6 = 102$$

The next number to be subtracted is 5, so  $102 - 5 = 97$

38. B: The mode is the number that appears the most. 52 appears the most in this series of numbers.

39. B:  $6 \cdot 3 + 4 - 7$

$$= 18 + 4 - 7$$

$$= 15$$

40. A: Simplify the equation:

$$10x - 36 + 4x - 6 + x = 3$$

$$15x - 42 = 3$$

$$15x = 45$$

$$x = 3$$

## Social Studies

1. C: Peter the Great (Peter I) was the Russian czar from 1682–1725. His reign was dominated by his efforts to modernize and Westernize Russia. He was responsible for bringing Russia into the European sphere, creating the first Russian navy, and controlling nobility, among other things.
2. C: The Norman Conquest was the English historical period beginning in 1066. It began with the defeat of Anglo-Saxon King Harold II. With this defeat, the customs, laws, and language of the Normans was introduced in England.  
The Great Schism was the division in the Roman Catholic Church from 1378–1417 when two rival popes emerged.  
The French Revolution was the prolonged political and social struggle between 1789 and 1799 in France. It encompassed the regicide of the king, Louis XVI, and the queen, Marie-Antoinette, included the Reign of Terror, the establishment of the First Republic, and led to the rise of Napoleon Bonaparte as Emperor of France, leading Europe to war.
3. A: Marxism is a term applied to the political, economic, and social theories advanced by Marx and Engels. Marx's theories had a profound influence on the development of Socialist movements and were the basis for the Bolshevik political movement lead by Lenin.
4. B: The debates between Lincoln, a Republican, and Douglas, a Democrat, resulted in Douglas making statements about slavery that the South would not accept. This resulted in the split of the Democratic Party and the defeat of Douglas in the presidential election in 1860.
5. D: The Judiciary Act established the Supreme Court, district courts, circuit courts, and the office of attorney general in 1789. George Washington was inaugurated president in 1789.
6. C: Eli Whitney invented the cotton gin in 1794. The gin enabled one worker to produce 50 pounds of cleaned cotton in one day. This made cotton a profitable crop and increased the demand for and value of slaves in the South.
7. D: In 1954 the Warren Court unanimously reversed the separate but equal ruling of *Plessy v. Ferguson* in 1896.
8. A: In 1880, ill sentiment was high against Chinese laborers. This sentiment lead to the reversal of the Burlingame Treaty of 1868, and thus legal immigration was stopped for a period of 10 years.
9. C: Iran, Iraq, and Kuwait all border the Persian Gulf.
10. A: The national religion of Brazil is Roman Catholicism.
11. B: These characteristics describe capitalism.

12. D: A dictator is a leader with absolute power without respect to constitutional limitations. This would not be found in a democracy. Democracy is rule by the people; government by the consent of the governed.
13. B: Determining methods of carrying babies and studying the toddlers in several countries would be the best method for gathering data for this study.
14. B: The rate of incarceration for juveniles did decrease after 1995. Answer A is a correct statement. Fewer women than men are incarcerated in each year sampled, even though the number of females incarcerated is growing. Response C is also accurate; in the years specified, more whites were incarcerated in jails than any other race. The chart clearly shows an increase in the number of Hispanics being jailed, making response D an accurate statement. Sadly, the fifth response, likewise, is true; the number of black inmates jumps by nearly half a million every five years.
15. A: The United Nations is an international organization of nations formed in 1945. Its main purpose is to promote international peace and security, maintain observance of international law, and promote economic and social progress.
16. B: Stalin became dictator of the Soviet Union in 1924. He died in 1953. World War II was a worldwide conflict fought from 1939–1945.
17. A: The League of Nations was an international organization formed to maintain peace and security in the post-World War I world. The fact that the United States did not join seriously weakened the League.
18. C: Robert E. Lee declined Lincoln's offer to command the U.S. Army at the outbreak of the Civil War. He instead chose to become the commander of the Confederate army of northern Virginia. In the final phases of the war, he was the commander of all Confederate forces.
19. D: The correct order is Revolutionary War (1776–1783), Great Depression (1929), first moon landing (1969).
20. A: Samuel Morse invented a code of dots and dashes that became known as Morse Code and in 1844 the first message was transmitted over a telegraph line. Morse code played an important role in communications during the Civil War.
21. B: In the Dred Scot case of 1857, the Supreme Court ruled that Dred Scott was not a citizen and had no right to bring his case to court.
22. B: The Andes mountain range is the world's longest continental mountain range. It lies as a continuous chain of mountains along the western coast of South America.
23. C: Gothic architecture often uses gargoyles, grotesque creatures with open mouths. They served as gutters, directing water away from walls.
24. B: Trade has been a part of the Sahara desert for centuries. Without the oases, this would have been impossible. An oasis is an area fed by an underground spring. Where oases

were found in the Sahara, communities were established. This allowed traders to cross the desert by traveling from one oasis to another.

25. C: In recent years, India's economy has been shaping into a market-based economy. This is an economic system that relies on supply and demand to set prices, rather than having prices set by the government.

26. A: A constitutional democratic monarchy is a country where the head of state is a monarch. The monarch shares power with a government that is organized by a constitution. Thailand's government meets this definition.

27. B: By using antiseptics, Muslim doctors prevented the infection that often led to loss of limbs or life among Europeans. The other responses are opinion or not supported by the paragraph. We have no way of comparing the bravery of Muslim people with those of other faiths when facing surgery, so Choice A can be eliminated. Likewise, Choice C is incorrect; there would not be sufficient rise in silk use for sutures to account for an expanded silk market. It is not clear that the Muslims were the only people to have translations of the works of Aristotle, nor does the passage suggest such.

28. D: Machinery and transport jumped from 34.3 to 42.0 percent in exports and from 9.7 to 28.0 percent in imports. Chemicals increased exports slightly, from 8.7 to 9.0. Imports declined slightly, from 5.3 to 3.6; thus Choice A is incorrect. Crude material exports declined from 13.7 to 10.8 while imports declined from 18.3 to 8.3, making Choice B incorrect. The decline in exports of food and beverages was just under 4 percent, while imports declined 7 percent; therefore, Choice C is not an accurate choice.

29. B: Crude material imports declined by 10 percentage points. All other categories saw imports that declined less than 10 points over the decade. Chemicals decreased in that time by only 1.7 percent, making Choice A inaccurate. Choice C is also incorrect; food and beverages decreased during those ten years by just over 7 percent. Imports of machinery and transport nearly tripled, rather than decreased, which means Choice D is incorrect.

30. D: By 1950, the number of women in the workforce had climbed to 28.8 percent—the first time the percentage was above 25 percent. Choice A is incorrect because women in 1900 made up only 18 percent of the workforce. By 1920, women still comprised only 20.4 of the workforce, making Choice B inaccurate. In 1940, 24.3 percent of women were in the labor force, but the question asks for a percentage higher than 25.

31. C: The percentage of women in the workforce steadily increased through seven decades (and beyond). By 1970, when it reached 36.7 percent, it was double the 18.1 percent of 1900. Choice A is wrong because the rate did not decline. The second response is also incorrect; the rate did not remain steady, but climbed. The fourth answer is not accurate; the rate did not vary up and down, but rather increased steadily.

32. B: Although the nation faced recession, the U.S. Dollar made a comeback in world currency during the fall of 2008. Choice A cannot be concluded from the information given, which focuses solely on the dollar and euro rather than on the entire world. Choice C is incorrect as well; the euro fell in 2008 against the dollar. The wisdom of buying stocks cannot be concluded from the information given; therefore, Choice D is not viable.

33. D: It is the duty of the President to see that federal laws are enforced. National laws are not subject to state laws or interpretations in matters constitutionally delegated to the federal government. Choice A is not correct, as the governor of a state does have power; he cannot act, however, in defiance of constitutional federal law. Choice B is incorrect as well, as the conflict in Vietnam had nothing to do with the situation in Arkansas. Choice C, finally, is incorrect, as the constitution outlines powers delegated to both levels of government, with regard to different spheres of influence.

34. C: The Mayan population of Belize stands at about 10 percent. The first option, Honduras, does not have a Mayan presence. Thus it is incorrect. Choice B, Costa Rica, does not have a statistically significant Mayan population either, making this a false choice. Choice D suggests Nicaragua, but it does not have enough Maya to show up on the chart at all.

35. D: Only in Belize does the Amerindian population exceed 10 percent, and that by a slim margin. Choice A is incorrect because the Creole population is not the largest ethnic group in the entire region but makes up about a fourth of Belize's population. The second response is also false; the Maya make up about 10 percent of the Belize population. Choice C is not correct; more than two-thirds of Nicaragua's people are of mixed descent.

36. A: Choice A is most accurate. Belize is close to Haiti and Jamaica, both of which have a high concentration of people of African descent. There is no evidence of trade between Belize and the nations of West Africa, making Choice B wrong. It is possible that many Creole in New Orleans did leave after Hurricane Katrina; however, there is no indication that they went to Belize, making the third response wrong. Choice D cannot be supported.

37. A: Cameroon is on the Atlantic coast, south of Nigeria and north of Gabon. Choice B is not accurate. Somalia is bordered by both the Indian Ocean and the Gulf of Aden; its capital, Mogadishu, is on the Indian Ocean. Choice C is incorrect; Mozambique, near the southern part of the continent, is bordered by the Indian Ocean. Choice D, Kenya, near the middle of the African continent, likewise, is an inaccurate choice. Kenya is also bordered by the Indian Ocean.

38. C: Young people protested being old enough to fight and die for their country while being denied voting rights. Choice A is incorrect because women had gained the right to vote with passage of the Nineteenth Amendment in 1920. Choice B is also wrong. African American males were guaranteed suffrage following the Civil War; African American females gained the right in 1920. The baby boom ended in 1964, so Choice D is not correct.

39. C: In 1969, there were 13 members; in 2008, there were 43, an increase of 30. The first response is not correct. The Civil War ended in 1865; it was more than 100 years later that the CBC was formed. The second option is also incorrect; nothing in the passage suggests a goal of a black president. Choice D is wrong; the passage specifically states that the alternative budget varies widely from the one that the president submits.

40. D: One key to an opinion statement is the use of superlatives. This sentence states apartheid was the worst political system, an opinion that could be challenged, given Nazism and fascism during World War II. All other statements can be verified as fact.