1. Name the term referring to brown seaweed.

   KELP

2. Which musical term means *singing unaccompanied*?

   A CAPELLA

3. Identify the Virginia town where the South surrendered to the North to effectively end the Civil War.

   APPOMATTOX COURT HOUSE

4. Give the name of the author known for writing *Black Beauty*.

   (ANNA) SEWELL

5. What is 3/8 of 640?

   240

6. Correct the following sentence if needed, "She had became his best friend in 6th grade."

   CHANGE BECAME TO BECOME

7. Too many of at least one kind of living thing inhabiting an environment causing less resources is known as what?

   OVERPOPULATION

8. Give the term referring to the body being used as the instrument of communication.

   PANTOMIME or MIME

9. What type of government is in effect when the people hold ruling power?

   DEMOCRACY

10. If there were a pair of $28 shoes on discount for 25% off, what was the new price?

    $21

11. The title character, Despereaux, is found in the 2004 Newbery Medal winner, *The Tale of Despereaux*, written by Kate DiCamillo. What type of animal is Despereaux?

    MOUSE
12. "Fourscore and seven years ago our fathers brought forth on this continent a new nation..." are the beginning words of which speech written and spoken by President Abraham Lincoln on November 19, 1863?

GETTYSBURG ADDRESS

13. Identify the tall, dark cloud often bringing thunderstorms.

CUMULONIMBUS

14. Nicknamed "Clinton’s Folly," identify the first national waterway which connected the Great Lakes with the Atlantic Ocean. Its official opening was in 1825.

ERIE CANAL

15. What type of current flows in one direction through a circuit?

DIRECT (CURRENT)

16. The writer’s attitude toward the subject can be serious or sarcastic and is known as which writing term?

TONE

17. What is the greatest common factor of 3 and 15?

3

18. Identify the 19th century Italian composer of such operas as Barber of Seville, Otello, and Cinderella.

(GIOACCHINO ANTONIO) ROSSINI

19. It is 4,260 feet long and is found in New York. Name the longest bridge located in the United States.

VERRAZANO-NARROWS

20. In the sentence, "The peak of the mountain was breathtaking in the fall," identify the correct spelling of the homonym of peak.

PEEK

21. What is 4/5 + 2/3?

1 7/15

22. Identify the composer known for such works as Belshazzar, Messiah, and Royal Fireworks Music.

(GEORGE FRIDERIC) HANDEL

23. What is the largest group into which an organism can be classified?

KINGDOM

24. Identify the national symbol on the Great Seal of the U. S. that was officially adopted in 1782.
BALD EAGLE

25. Give the 2-word musical term referring to the sharps and flats written on the staff to indicate the key of a song.

KEY SIGNATURE

26. What is $5^3 - 2^3$?

117

27. This question requires a multiple answer. In the sentence, “Dan’s friend misplaced her keys,” identify the pronoun and its antecedent.

HER, FRIEND

28. What term refers to the water portion of the Earth?

HYDROSPHERE

29. To how many degrees do complementary angles add?

90 (DEGREES)

30. Which French explorer, called the “Father of New France,” founded Quebec in 1608?

(SAMUEL DE) CHAMPLAIN

31. Photographs and the written word trace the life of the Civil War President in which 1988 Newbery Medal winner written by Russell Freedman?

LINCOLN: A PHOTO BIOGRAPHY

32. Give the Chinese word used to mean food.

CHOW

33. A piece of rock or dust from space that burns up in the Earth’s atmosphere is known as what?

METEOR

34. It is a New Zealand sport. Name this sport described as a big drop from a high place on a long rubber band.

BUNGEE JUMPING

35. What is the perimeter of a rectangle having a length of 18 meters and a width of 5 meters?

46 METERS
1. Which principle of design refers to the different types or an assortment of lines, shapes, or textures in a work of art?

   VARIETY

2. Give the name of the prison housing criminals who are wizards in J. K. Rowling’s works.

   AZKABAN

3. Both the longest tunnel, the Seikan, and the longest bridge, Akashi Kaikyo, are located in which country having as its capital, Tokyo?

   JAPAN

4. Identify the music style developed in New Orleans with strong rhythms associated with such artists as Louis Armstrong, King Oliver, and Jelly Roll Morton.

   JAZZ

5. Dan was walking down the aisle and saw 3 stacks of 48 cans of peaches. If he wanted to buy 2 of these cans, what fractional part of the peaches did he want?

   \( \frac{1}{72} \)

6. This question requires a multiple answer. In the sentence, “She had raced around the track every evening,” identify the verb and its tense.

   HAD RACED, PAST PERFECT (TENSE)

7. What is the huge storm that forms over a warm ocean and has strong winds and heavy rains?

   HURRICANE

8. Give the name of the last major battle of the American Revolutionary War.

   (BATTLE OF) YORKTOWN

9. The hill overlooking Athens, Greece, is known as which famous landmark?

   ACROPOLIS

10. Beautiful and powerful imagery drawn from the sun, sand, and sea of Martha’s summer with her family and friends at Cape Cod skillfully reflects the pain and joy of Martha’s coming-of-age and awareness of her own mortality in Olive’s Ocean, a 2004 Honor Book winner written by which author?

    (KEVIN) HENKES

11. In the expression \( 69 + a \), identify the variable.

    \( a \)
12. Identify this popular music of Latin American origin with elements of rhythm and blues, jazz, and rock.

SALSA

13. In the sentence, “He came to your game yesterday afternoon,” identify the part of speech of yesterday.

ADVERB

14. Identify the geometric shape that has 4 equal sides but without any right angles.

RHOMBUS

15. What is the scientific name for the collarbone?

CLAVICLE

16. Name the geographical term referring to a body of water that flows into a larger body of water.

TRIBUTARY

17. Identify the American naturalist and who artist from 1826 to 1838 published Birds of America, an 87-part work with 435 paintings.

(JOHN JAMES) AUDUBON

18. Convert 84 inches into feet.

7 (FEET)

19. Identify the American inventor known for preserving food by freezing.

(CLARENCE) BIRDSEYE

20. A stanza is a division in a poem named for the number of lines it contains. What is an eight-line stanza?

OCTAVE

21. If Minnie had 4 red chips, 2 blue chips, and 6 green chips, what is her probability of pulling out a blue chip?

1/6

22. Name the U. S. Constitutional Amendment pertaining to the right to a speedy trial.

6TH (AMENDMENT)

23. Give the term referring to a person who creates dances.

CHOREOGRAPHER

24. What is the flower part that contains egg cells?

OVARY
25. What is the smallest county in area in the state of Kentucky?

    ROBERTSON

26. Convert 3/5 into a percentage.

    60%

27. In the sentence, "His cat chased me up the tree this morning," identify the possessive pronoun.

    HIS

28. Which term refers to a small, complete figure, usually of a person or animal and made of wood, that is moved from above by strings that are attached to its jointed arms, legs, and body?

    MARIONETTE

29. She was a native of Amherst, Massachusetts, and spent the last 25 years of her life in relative seclusion. Identify this poet known for "I'm Nobody! Who are You?, "Because I Could Not Stop for Death," and "I Never Saw a Moor."

    (EMILY) DICKINSON

30. Identify one of the three main types of rock that is formed by heat and pressure.

    METAMORPHIC (ROCK)

31. Identify the symbol of the U. S. depicted as an old man with a white beard, top hat, frock coat, and striped pants.

    UNCLE SAM

32. This question requires a multiple answer. Identify the prime numbers that fall between 20 and 30.

    23 & 29

33. Still standing in the desert near Giza, Egypt, identify the name of the largest, oldest, and most famous extant sphinx statue.

    GREAT SPHINX

34. Identify the mythological race of warlike women who lived in the Black Sea region of Asia Minor.

    AMAZONS

35. Give the correct spelling of the singular possessive form of mouse.

    MOUSE'S
EXTRA QUESTIONS

1. Give the term referring to a tiny organism that must be seen with a microscope.
   MICROORGANISM

2. Simplify the following: \(4ab \times 3ab\).
   \[12a^2b^2\]

3. Identify the geographical term referring to an opening in the coastline larger than a bay.
   GULF

4. Identify the music style that started in large U.S. cities based on a talking, rhyme style.
   RAP

5. Identify the part of speech that names a person, place, thing, or idea.
   NOUN
1. A combination of rich imagination and scientific tastes develop into which rich fantastic 1948 Newbery Award Medal winner by William Pène Du Bois?

**THE TWENTY-ONE BALLOONS**

2. Name the French Impressionist painter known for such works as *Lady Sewing, Girl Doing her Hair, Bathers, and The Luncheon of the Boating Party.*

**(PIERRE-AUGUSTE) RENOIR**

3. He served as Vice-President under Warren G. Harding. Which U. S. Republican President from Vermont was the first to be sworn in by his father, was the only president born on July 4, and was our 30th U. S. President?

**(PRESIDENT CALVIN) COOLIDGE**

4. What is the principal square root of 361?

\[ x = 19 \]

5. Identify the type of vacuum tube used for amplification that consists of a wire grid as well as its electrodes.

**TRIODE**

6. Such science fiction books as *Cat's Cradle* and *Slaughterhouse Five* were both written by which author?

**(KURT) VONNEGUT (JR.)**

7. Give the economics term referring to the condition in which production of goods exceeds the demand for them.

**OVERPRODUCTION**

8. Convert 20° Celsius to degrees Fahrenheit.

\[ 68°F \]

9. Give the more common name for solid carbon dioxide.

**DRY ICE**

10. To apply heat to harden pottery is known as what?

**FIRE (FIRING)**
11. This question requires a multiple answer. Give all the prime numbers between 70 and 80.

71, 73, 79

12. Christa McAuliffe was the first American teacher to go into space. A faulty o-ring caused the explosion of which shuttlecraft on which she was aboard?

CHALLENGER

13. It can have 4 or 5 strings. Name this American fretted string instrument consisting of a round wood and metal drum covered on one side with parchment or plastic.

BANJO

14. Give the 2-word term referring to the situation in which it is beneficial for a population to maintain two different alleles creating different phenotypes within the population.

BALANCED POLYMORPHISM

15. Given the sentence, "We needed a lot more rain than actually came," identify the mood.

INDICATIVE (MOOD)

16. Commandant Henry Wirz was executed in 1865 in Washington, D. C., after being convicted of mistreating soldiers at which Confederate prison in Georgia?

ANDERSONVILLE

17. Find the length of the hypotenuse of a right triangle with legs of 36 meters and 48 meters.

60 METERS

18. It can take the form of a conflict, a challenge, a surprise, a time restraint, or the suspense of not knowing. Which element of drama impels people to respond and take action?

TENSION

19. In the sentence, "Brownsville is a very calm city in Kentucky," identify the common noun.

CITY

20. It is celebrated by eating rich foods forbidden during Lent and by carnivals in such cities as New Orleans, Rio de Janeiro, and Nice, France. Give the name of this holiday meaning Fat Tuesday.

MARDIS GRAS or SHROVE TUESDAY

21. It is one of the noble gases used in arc welding and in balloons that carry scientific instruments high into the earth's atmosphere. Name this element having as its formula, He.

HELIUM

22. What is the basic unit of capacity in the metric system?

LITER
23. Pato, a sport that developed from a traditional gaucho game, is popular in this country. Name the country that has the second largest area in South America.

ARGENTINA

24. In the sentence, “He had accumulated so much debt that he had to take a second and a third job,” give the correct spelling of debt.

DEBT

25. The Eleanor, the Beaver, and the Dartmouth were all ships involved in this famous incident that occurred on December 16, 1773. Name this incident in which colonials dressed as Mohawk Indians dumped 342 chests of a certain substance from these ships into the bay.

BOSTON TEA PARTY

26. Identify the American composer known for such songs as “Days of Wine and Roses,” “Moon River,” and “Pink Panther Theme.”

(HENRY) MANCINI

27. Solve for $x$: $7|2 - x| = 21$.

$x = -1, 5$

28. What is the opening in the surface of a leaf through which carbon dioxide enters and oxygen and water vapor pass out?

STOMA or STOMATA

29. It is known as the flying wing. Identify this U. S. plane that is designed to evade detection by radar.

B-2 or STEALTH BOMBER

30. Identify the property illustrated by the following example: $(a + b) + c = a + (b + c)$.

ASSOCIATIVE PROPERTY OF ADDITION

31. In office at the time of this occurrence was President John F. Kennedy. Identify the Cuban site where a U. S. backed invasion was crushed on April 17, 1961.

BAY OF PIGS (INCIDENT)

32. Give the 2-word term referring to the mark or evidence left behind of the activities of an organism.

TRACE FOSSIL

33. Correct the following sentence if needed, “Lie down for a little while on the bed.”

CORRECT AS IS

34. What name was given to the U. S. space station launched in 1973? SKYLAB
35. What name is given to any instrument that produces sound by means of physical vibrations without the use of electronic amplification?

ACOUSTIC  

36. Identify the Norse mythological goddess of love, beauty, marriage, and the dead.

FREYA  

37. It is often stated after someone has sneezed. Which German term is used to mean good health?

GESUNDHEIT  

38. He helped start the Ghost Dance Uprising. Name the leader of the Sioux Indians who was killed on South Dakota's Standing Rock Reservation in 1890.

SITTING BULL  

39. If \( y \) varies directly as \( x \), and \( y = 6 \) when \( x = 8 \), what is \( y \) when \( x = 14 \)?

\[ x = \frac{21}{2} \]  

40. Give the term referring to the total number of chromosomes present in a cell.

DIPLOID (NUMBER)
1. Give the musical term referring to the rhythmic unit of time.

BEAT

2. Solve for \( x \) in the following: 30% of \( x = 45 \).

\[
X = 150
\]

3. What is the large, round sac in the cytoplasm of a cell that stores water, food, enzymes, and other materials?

VACUOLE

4. In ancient Egypt, what term refers to a dead body preserved by embalming?

MUMMY

5. Such books as *Absalom, Absalom!*, *The Sound and the Fury*, and *As I Lay Dying* were all written by which American author?

(WILLIAM) FAULKNER

6. His canvases glow with light and rich color. He is one of the greatest English landscape painters. Identify this artist known for *Calais Pier* and *The Grand Canal*.

(JOSEPH) TURNER

7. In the sentence, "Some of us are going home this afternoon," identify the object of the preposition.

US

8. Simplify the following: \(18x^5y^4\) divided by \(-3x^2y^3\).

\[
-6xy
\]

9. His constitution set limits on how much land an individual was allowed to own and gave landowners a right to vote in the assembly. Which Athenian leader freed all people enslaved because of debt?

SOLON

10. Give the unit of measurement used to measure sound frequency.

HERTZ

11. They are known for their tidy farms and their distinctive crafts and customs. A considerable number of them belong to strict religious denominations such as the Amish. Identify the term referring to the German and Swiss settlers of Pennsylvania in the 17th and 18th centuries and their descendants.

PENNSYLVANIA DUTCH

12. If a dice is rolled once, what is the probability that it will show a multiple of 3?

\[
\frac{1}{3}
\]
13. According to the Bible, identify the name of the mountain upon which Noah's ark came to rest as the waters of the great flood receded.

   (MOUNT) ARARAT

14. It is a famous fairy tale from the collection of Charles Perrault. Identify this tale in which a young girl is forced by her stepmother and stepsisters to do heavy housework and almost miss a ball. With the help of a fairy godmother, she is able to go and captivates the handsome prince.

   CINDERELLA

15. Give the term referring to the company or organization that provides access to the Internet through its servers usually for a fee.

   INTERNET SERVICE PROVIDER or ISP

16. They are used in dance bands, jazz bands, and orchestras. They can be crashed together in pairs or struck singly with a drumstick. Identify these large, round metal plates used as a percussion instrument.

   CYMBALS

17. If a $25 item is placed on sale and is sold for $21, what is the percent of reduction?

   16%

18. These three words come from a proverb quoted by Theodore Roosevelt who said, "Speak softly and carry a big stick." Identify this phrase referring to international negotiations backed by the threat of force.

   BIG STICK DIPLOMACY

19. It can inhibit growth and drive up interest rates. Give the 2-word term referring to the amount of borrowing by the government to meet expenditures exceeding tax revenues.

   NATIONAL DEBT

20. Such processes tend to be very expensive. It is used to make it available for human consumption and agriculture. Identify the term referring to any process that removes salt from water.

   DESALINIZATION

21. It is set in World War I. An American soldier and an English nurse fall in love. He deserts to join her, and she dies in childbirth. Identify this classic written by Ernest Hemingway.

   A FAREWELL TO ARMS

22. It contains stone engravings of Lincoln's Second Inaugural Address and his Gettysburg Address. Identify this massive showplace built in Washington, D. C., in honor of Abe Lincoln containing a statue of Lincoln seated.

   LINCOLN MEMORIAL or LINCOLN MONUMENT

23. The Alps provide scenic beauty. On which continent are they located?

   EUROPE
24. Given Set A = \{3, 6, 9, 12\} and Set B = \{2, 4, 6, 8\}, find the intersection of these 2 sets.
\[
\{6\}
\]

25. A diet high in these increases the level of cholesterol in the blood. They are usually solid at room temperature and are found in butter, red meat, poultry, and milk products. Identify this type of fat in which the molecules are arranged so that every valence electron in each of the atoms making up the molecule is used to form a bond with one electron from another atom.

Saturated (Fats)

26. In the sentence, “Their house was really decorated for the holidays,” give the correct spelling of holidays.

Holidays

27. The fee is based on a percentage of the sale price. Give the term referring to the paid by a broker or other financial agent for negotiating a sale.

Commission

28. Change 35 base 10 to an equivalent number in base 2.

100011

29. Carthage was destroyed after the third one. What name was given to the three wars between ancient Carthage and Rome in the third and second centuries B.C.?

Punic (Wars)

30. In the sentence, “Here is the best description of the book,” identify the simple subject.

Description

31. They are common in the mid-West and occur chiefly during thunderstorms. What are storms in which high-speed winds move in funnel-shaped patterns?

Tornadoes

32. It constitutes one of the five boroughs that make up New York City. It is the center of the country’s financial industry, communications industry including advertising and television, and the fashion industry. Identify this island on which the destruction of the Twin Towers left a physical and emotional scar.

Manhattan (Island)

33. Find the perimeter of a parallelogram with one side measuring 7.5 inches and another side measuring 19.5 inches.

54 inches

34. His political involvement and frequent lapses of taste made him a literary celebrity in his day. Name this poet whose poems include “The Vision of Judgment” and “Don Juan.”

(George Gordon Lord) Byron

TX
35. The feeling created in a work of art or in a literary work is known as what?

MOOD

36. Identify the U. S. Constitutional Amendment pertaining to the right to bear arms.

2ND (AMENDMENT)

37. He believed that psychological problems could be traced to repressed childhood experiences. He also argued that dreams provide clues to the nature of psychological problems. His theories introduced concepts such as id and superego into the language of psychiatry. Identify this Austrian physician who founded psychoanalysis and developed the theory of the Oedipus complex.

(SIGMUND) FREUD

38. They can be carried in a person’s genes without appearing in that person. Identify this type of trait that must be contributed by both parents in order to appear in the offspring.

RECESSIVE (TRAIT)

39. Identify the type of error illustrated by the following example, “Some of us is preparing lunch.”

SUBJECT-VERB AGREEMENT

40. He is remembered for his ability to escape from straitjackets, chains, handcuffs, and locked chests. Identify this American magician of the late 19th and early 20th centuries.

(HARRY) HOUDINI

EXTRA QUESTIONS

1. Can Christian save Princess Marigold from his evil mother in this upside-down, inside-out fairytale? Name this hilarious tale written by Jean Ferris.

ONCE UPON A MARIGOLD

2. Name the long, flat ruler that is attached to a short piece that makes it look like a “T.” The short piece slides along the edge of a drawing board to position the ruler so parallel lines can be drawn.

T SQUARE

3. Name the machine used by the ancient Egyptians that would lift water from the Nile to the basins.

SHADOOF

4. It cannot be seen directly but can be detected by measuring its gravitational effects. It does not interact with light or other electromagnetic radiation directly. Identify the 2-word term for the unseen matter that may make up more than 90% of the universe.

DARK MATTER

5. What is the slope of the line containing the points (-5, -6) and (-3, 2)?
Northern Kentucky Academic League
Varsity Match—Week 4

1. Margaret Bourke-White used this artistic medium to portray conditions in the Soviet Union. Another notable example is Dorothea Lange's Migrant Mother. Renowned artists in what medium also include Robert Capa, Ansel Adams, and Mathew Brady?

PHOTOGRAPHY (Accept word forms and equivalents)

2. Set A consists of the numbers 2, 3, 5, 7, and 9. Set B consists of the numbers 3, 6, 7, 8, and 10. What are the elements of Set A intersected with Set B?

3 AND 7

3. Sodium and lithium are elements that can both be found in what group of the periodic table?

GROUP I or ALKALI METALS OR 1 A

4. This author wrote of a utopian community in The Blithedale Romance, and published short stories like "Rappaccini's [rap-uh-CHEE-neez] Daughter" in Mosses from an Old Manse. He deals with his Puritan ancestry in "Young Goodman Brown" and The House of the Seven Gables. Who created Roger Chillingworth, Arthur Dimmesdale, and Hester Prynne in The Scarlet Letter?

(NATHANIEL) HAWTHORNE

5. This explorer died August 25, 2012. Along with Michael Collins and Buzz Aldrin, he flew in Apollo 11. Identify this American astronaut, the first man on the moon.

(NEIL) ARMSTRONG

6. Given that eleven squared is 121 and eleven cubed is 1331, what is 11 raised to the fourth power?

14641

7. Queen Anne knighted this English physicist in 1705. In 1676 he said that, "If I have seen further, it is by standing on the shoulders of giants." Identify the man who made some of his greatest discoveries when Cambridge University was closed, and who built the first reflecting telescope.

(SIR) (ISAAC) NEWTON

8. This artist was the main creative force behind the "Exploding Plastic Inevitable" multimedia performances. His garishly colored silkscreen prints of celebrities such as Elvis and Marilyn Monroe are among the most valuable works of 20th-century art. The subjects of what American pop artist included soup cans?

(ANDY) WARHOL
9. This author's Tillerman cycle includes novels like A Solitary Blue, The Runner, and Seventeen Against the Dealer. In Homecoming, she profiles four siblings who seek out their grandmother after their mother abandons them. Name this author, who won the 1983 Newbery Medal for Dicey's Song.

(CYNTHIA) VOIGT [VOYT]

10. This geographic region was the site of the 1930s Dust Bowl. Most of America's grain production and ranching activity occurs here. Identify this landform, which covers most of the Midwestern United States.

GREAT PLAINS

11. One of these structures, made out of glass, is part of I.M. Pei's [PAYZ] design for Cleveland's Rock and Roll Hall of Fame. Pei designed a more famous one of these structures, also in glass, for Paris' Louve [LOOV] Museum. Name this basic architectural structure, whose "Great" one is located at Giza in Egypt.

PYRAMID(S) (Accept any answer that includes the word PYRAMID)

12. The infrared type of this tool infers a measurement using a portion of the blackbody radiation emitted by the object being checked. The temporal artery version uses an infrared sensor as well, to detect heat. What type of temperature measuring device is it?

THERMOMETER

13. This author taught Old and Middle English at Oxford, an experience that inspired his creation of the fictional "Elvish" language. In The Silmarillion [sil-muh-RIL-yun], he profiles the orcs, ents, dwarves, and elves who populate Middle Earth. Who created Bilbo Baggins in The Hobbit, and Frodo in The Lord of the Rings?

(J.R.R.) TOLKIEN

14. This ocean is larger than all of the Earth's land area combined. It surrounds Japan and Hawaii, and borders both China and the United States. What is the world's largest ocean?

PACIFIC (OCEAN)

15. What is the name given to the set of numbers that consists of the whole numbers and their opposites?

INTEGERS

16. In a park, the park ranger tagged 20 deer. 2 weeks later, from a sample of 50 deer, 4 of them were tagged. Using the results from this experiment, how many deer should be in the park?

250
17. In music, this letter with a vertical slash through it can be used as shorthand for a time signature of 2/2 [two-two]. Without that vertical slash, this letter is shorthand for 4/4 [four-four] time. What letter also designates the "middle" note on a piano keyboard?

C

18. These membrane-enclosed organelles are found in most eukaryotic [yoo-ka-ree-OT-ick] cells. Their main function is to produce energy in the form of ATP. What organelles are often called the powerhouses of cells?

MITOCHONDRIA [my-tuh-KON-dree-uh] (Accept: MITOCHONDRION [my-tuh-KON-dree-un])

19. This book profiles an eleven-year-old protagonist who moves in with distant relatives after her mother gets a housekeeping job. She plays with her cousins, unravels family secrets, and searches for buried treasure in Great Depression-era Key West, Florida. Name this 2011 Newbery Honor book, written by Jennifer L. Holm.

TURTLE IN PARADISE

20. This landform takes its name from the fourth letter of the Greek alphabet. Examples formed when sediment deposited at the end of the Ganges [GAHN-jees], Nile, and Mississippi Rivers. Identify this triangle-shaped geographic landform where rivers empty into the ocean.

DELT A

21. Mike is traveling on a river using a motorboat. When traveling downstream, Mike can travel 12 miles per hour. When traveling upstream, Mike can only travel 4 miles per hour. How fast is the current of the river?

4 MILES PER HOUR

22. The plant belladonna was used by Italian Renaissance women to do this to their pupils, believing it augmented their beauty. It can mean an increase in diameter of openings, vessels, or tubes. What word refers to the widening of the pupil to allow in more light?

DILATE (Accept other forms of the word)

23. This abolitionist delivered a July 4, 1852 speech to Rochester, New York, on "The Hypocrisy of American Slavery." According to his autobiography, his master's wife taught him to read, and he later served as a ship caulker in Baltimore. Identify this former slave, who published his own abolitionist newspaper, The North Star.

(FREDERICK) DOUGLASS
24. This civilization was ruled by Menes [MEE-neez], Ramses [RAM-seez] and Tutankhamen [too-tahng-KAH-mun]. They constructed large cities, including Memphis and Thebes [THEEBZ], and monuments, including the Pyramids and the Sphinx. What ancient civilization was centered on the Nile valley?

EGYPT

25. This composer was romantically involved with the French writer George Sand. He drew on the folk music traditions of his native land in his numerous mazurkas [mah-ZER-kuz] and polonaises [pohl-uh-NAYZ-iz]. Identify this composer of the "Revolutionary" etude and the "Minute Waltz," a Polish Romantic known for his piano works.

(FREDERIC) CHOPIN [show-PAN]

26. Rounded to the nearest tenth, how many pounds are in one kilogram?

2.2 (POUNDS)

27. The band Oingo Boingo provided this composer with his start, as he was its chief songwriter. He later turned to film scores, and found success with his work on Beetlejuice and Edward Scissorhands. Name this composer associated with director Tim Burton, who wrote the music for Corpse Bride and Charlie and the Chocolate Factory.

(DANNY) ELFMAN

28. The name for a gender-determination system comes from these sex chromosomes that are found in humans, most mammals, and some insects. It consists of two letters, and is the sex combination for human males. Identify this chromosome pair.

XY

29. This conflict was triggered by Athens' expanding in Greece and taking control of the Delian [DEE-lee-un] League as an empire. Throughout the war, Athens dominated the sea and Sparta the land until the former's navy was destroyed, bringing an end to the fighting. Identify this 5th-century B.C. war that resulted in Athens' fall and Sparta's rise.

PELOPONNESIAN [pel-uh-puh-NEE-zhun] WAR

30. This free style poem was published in 1916 and centered on a midwest metropolis. It praises its subject as the "Hog Butcher for the World" and "Stormy, husky, brawling." What is this Carl Sandburg poem?

CHICAGO
31. Some of Henry Cowell’s music calls for this instrument to be played with the forearm rather than the fingers. Rachmaninoff wrote four concertos for this instrument, whose great players included Vladimir Horowitz. Name this instrument, for which Beethoven wrote thirty-two sonatas.

PIANO (Accept: PIANO(FORET))

32. The measure of an interior angle of this regular polygon is 150 degrees. What is the name of a polygon that has 12 sides?

DODECAGON

33. The name of this fish derives from the Latin for "delay," because sailors believed they would slow ships down by latching on. A specialized suction disc on their head allows them to hang out with, and hang on to, other marine life. Name this type of fish that is most closely associated with sharks.

REMORA (Accept: SHARKSUCCER)

34. This dynasty, along with the earlier Han [HAHN] and the later Song [SOHNG], was a golden age. It was a time of peace and prosperity, Chinese poetry hit its apex, and woodblock printing was developed. Name this Chinese dynasty that lasted from 618 to 907.

TANG [TAHNG] (DYNASTY)

35. This play takes its name from the poem "A Dream Deferred" by Langston Hughes. It relates the efforts of the Younger family to move out of the ghetto and into their own home, facing many obstacles along the way. What is this 1959 play by Lorraine Hansberry?

(A) RAISING IN THE SUN

36. A regular octagon has a side of length 79 units. What is the perimeter of the octagon?

632 (UNITS)

37. Like surface melting, evaporation, and wind erosion, this process is a form of ablation. It occurs most often in Antarctica, less often in Greenland. By what process does an iceberg break off a glacier?

CALVING

38. Percy Grainger used this type of music as the basis for his Lincolnshire Posy. Ralph [RAYF] Vaughan Williams arranged a "suite" of English ones for wind band, and Bela Bartok [BEY-luh BAHR-tok] made field recordings of many from his native Hungary. What general type of music do people pass down from generation to generation by oral tradition?

(ENGLISH or HUNGARIAN) FOLK (SONG(S) or MUSIC) (Accept clear equivalents)
39. This author's young adult books include Pacific Crossing, Crazy Weekend, and When Dad Came Back. In "Seventh Grade," he follows Victor Rodríguez's quest to date Teresa and learn French. Who wrote Baseball in April and Too Many Tamales?

(GARY) SOTO

40. This navigator sailed for both England and Holland. In the name of the former, he found a namesake bay in Canada where his crew set him out to die. Name this explorer who discovered a river in New York which bears his name.

(HENRY) HUDSON

End of first half – begin Inquiry Period
1. In a right triangle, if the lengths of the legs are 5 units and 6 units, what is the length, in units, of the hypotenuse?

SQUARE ROOT OF 61 (UNITS) (Accept: RADICAL 61 (UNITS))

2. Rounded to the nearest 10 million, it is the number of miles that light travels in about eight minutes. More specifically, it is the number of miles from the sun to Earth. Again, rounded to the nearest 10 million miles, what is this distance?

90 MILLION (MILES)

3. These folk creatures, whose name means "little body," live in remote places, where they make shoes and hide gold. If someone threatens them with violence and stares them down, they lead that person to their pot of gold. Who are these short men of Irish folklore?

LEPRECHAUNS

4. This choreographer created the dances for a musical whose songs include "June is Bustin' Out All Over" and "You'll Never Walk Alone." Besides Carousel, this choreographer worked with Aaron Copland on his Rodeo. Name this choreographer, the niece of famed film director Cecil.

(AGNES) DE MILLE

5. This group flourished in the Southeastern United States from 800 to 1500. Defining characteristics included their wide reaching trade networks, maize based agriculture, and mound building. Identify this culture named after the longest river in the United States.

MISSISSIPPIAN (CULTURE)

6. Given the data: 82, 85, 90, 85, 70, 88, 84, 90, 88, 82, and 88, what is the mode of this data?

88

7. Identify the subordinate conjunction in the following sentence: The teacher will allow the students to go to the playground as long as they are well behaved.

AS LONG AS

8. This colony was founded by James Oglethorpe in 1732 as a debtor's haven. Though slavery was originally outlawed, this soon changed and the colony and its capital, Savannah, became like the rest of the region. Which of the original thirteen colonies, the southernmost, bordered Spanish Florida?

GEORGIA
9. This dance originated in the British Isles, and is distinguished from its counterpart by being in compound rather than simple time. It is performed by keeping the upper body still while the lower body makes rapid, quick hops and kicks. Name this folk dance of Scotland, often paired with the reel.

JIG(S)

10. Your phlebotomist [fluh-BOT-uh-mist] might tell you that this is one of the three components your blood will be separated into after you have donated. This constitutes about 55 percent of blood fluid, and is mostly water. What is this straw-colored liquid called?

PLASMA

11. My mother and sister went shopping, so my father and I played in the arcade. The previous sentence is an example of what type of sentence that contains two independent clauses joined by a conjunction, semicolon, or colon?

COMPOUND (SENTENCE)

12. Suppose 12 people are available to be officers of a school club. One will be chosen as president, one as vice-president, and one as secretary. How many different possibilities are there from this group of 12 people?

1320

13. The first step in using this laboratory equipment with three words in its name is to move the three sliders to the zero position. Then place the object to be measured on the pan, moving the 100-gram and 10-gram sliders into position. What is the lab tool uses the third slider to determine the mass of the object?

TRIPLE BEAM BALANCE

14. This Christian holiday shares its date and name with the Jewish holiday on which Moses received the Ten Commandments. A religious sect known for speaking in tongues takes its name from this religious holiday, which commemorates the receipt of the Holy Spirit by the Apostles. Name this holiday celebrated fifty days after Easter.

PENTECOST (Accept: PENTECOSTAL(ISM))

15. This document was adopted by convention on September 17, 1787, and went into effect on March 4, 1789, replacing the Articles of Confederation. It is composed of seven articles and twenty seven amendments, the first ten of which are the Bill of Rights. What document, the "highest law of the land," lays the framework for the United States government?

(UNITED STATES) CONSTITUTION
16. One variety is called reindeer moss, even though it is not a moss at all. It is actually two organisms living in symbiosis [sim-bee-oh-sus]: an algae and a fungus. What dual life form is usually found as crusty patches living in harsh conditions on the surface of rocks?

LICHEN

17. Solve the inequality: the absolute value of $x$ is less than 8.

$-8 < x < 8$ (Accept: $x$ is GREATER THAN -8 AND LESS THAN 8)

18. This conflict lasted from 1835 to 1836, but wasn't fully resolved until the Mexican-American War. Its battles included San Jacinto [jah-SIN-toh], where Santa Anna surrendered his army, and the Alamo, which became its rallying cry. Name this war in which a new country broke off from Mexico.

TEXAS REVOLUTION (Accept: TEXAS WAR OF INDEPENDENCE)

19. This four-letter abstract noun is a synonym for "happiness." What four-letter word also refers to a TV show about a high school chorus and dance group?

GLEE

20. This goddess was responsible for the birth of the Eleusinian [el-yoo-SIN-ee-uhn] Mysteries. The Greeks believed her periodic bouts with depression were responsible for the change of the seasons. Name this Greek goddess, who brings on winter when her daughter Persephone [per-SEF-uh-nee] spends time with Hades.

DEMETER

21. In the commedia dell'arte [kuh-MAY-dee-uh del-AHR-tee] tradition, Pierrot [pee-uh-ROH] and Harlequin are examples of these. The "fool" is an example of one of these in Shakespearian drama. What term, describing stereotypical, familiar characters that appear in numerous period drama works, is a five-letter word beginning with "S"?

STOCK (CHARACTERS)

22. Most fishes do not have this type of vision, since their eyes are on the opposite sides of their heads. Neither do most birds, which must judge distances by moving their heads to look at an object with both eyes. What kind of vision lets an animal perceive a single, three-dimensional image from the separate images delivered to the brain by each eye?

STEREOSCOPIAN (VISION)

23. Spelling required. Some commonly used words are deceptively easy to misspell. Correctly spell the word "misspell".

M-I-S-S-P-E-L-L
24. State your answer in standard form. What is the result when the polynomial: 5 X cubed, plus 10 X squared, minus 3 X, plus 8, is added to 12 X squared, plus 10X, minus 9.

\[ 5 \times \text{CUBED PLUS 22 \times \text{SQUARED PLUS 7X MINUS 1}} \]

25. This document overturned Dred Scott v. Sanford and many of the South's Black Codes. It makes all people born on American soil citizens, and requires equal protection under the law for everyone. What is this Constitutional amendment, adopted on July 9, 1868?

FOURTEENTH (AMENDMENT)

26. Given the function G of X equals 4x plus 20, what is the zero of the function?

NEGATIVE 5

27. One character in this play is rebuked as a "goodman boy" after threatening violence against an unwanted guest. It begins with servants of two families starting a fight after one bites their thumb at the other. Name this Shakespearean play in which two children of the Montagues and the Capulets fall in love.

ROMEO AND JULIET

28. The American Academy of Dermatology recommends that you wear flip-flops to prevent this. It is a contagious fungal infection, scientific name tinea pedis [TIN-ee-uh PED-is]. What condition is caused by fungi that live on shower room floors?

ATHLETE'S FOOT

29. The prefix with this meaning is found in the words "atypical", "asexual", and "abiotic". What is the definition of the Greek prefix "a-"?

WITHOUT (Accept: NOT, similar)

30. This statesman led the Anti-Federalists and later the Democratic-Republicans. The Barbary War and the Louisiana Purchase both occurred under his administration. Who served as the third President of the United States from 1801 to 1809?

(THOMAS) JEFFERSON

31. Lothar Meyer's attempt to create this came from the ordering of elements by atomic weight. Dmitri Mendeleev's version became more widespread via publication, and became the first accepted version of this chart. Name this grid of the atomic elements, in which they are ordered and grouped by similar properties.

PERIODIC TABLE (OF ELEMENTS)
32. This character sings "Who Am I," making the decision to reinvent himself, and later prays for Marius' safety in "Bring Him Home." Also known as prisoner 2-4-6-0-1, he promises the dying Fantine [fahn-TEEN] that he will care for her daughter, Cosette [ko-ZET] Name this Victor Hugo creation, the protagonist of Les Miserables.

(JEAN) VALJEAN [ZHAN vahl-ZHAN]

33. This document is the oldest of its kind still in use. It is composed of seven articles and twenty seven amendments, the first ten of which are the Bill of Rights. Name this plan of government for the United States.

CONSTITUTION (OF THE UNITED STATES)

34. This foreign phrase is often used to wish travelers well when they take a trip. What French phrase means "have a nice trip"?

BON VOYAGE [bon voy-AZH]

35. What is the equation of a line, in slope intercept form, that has x intercept of 4 and y intercept of 6?

\[ Y = -\frac{3}{2} X + 6 \]

36. In September 2012, this man's financial backers lost their bail investment after he took refuge in an Ecuadorian embassy. The organization he headed made international headlines in 2010 when it began releasing American diplomatic communications. Name this founder and figurehead of WikiLeaks.

(JULIAN) ASSANGE [ah-SANZH]

37. Named for a 19th-century clergyman, this literary technique is considered a form of pun when used purposely as a play on words. What literary device shuffles the first letters of words to make different words and change the meaning of a phrase, as in saying "a blushing crow" for "a crushing blow"?

SPOONERISM

38. The red cells in this blood group carry neither the A nor B antigens. People who have this blood type are called universal donors. What blood type is it?

(TYPE) O

39. The square root of 150 is closest to what integer?

12
40. This financial phenomenon occurs quite often at the federal level due to increased spending and tax cuts. According to the laws of supply and demand, it facilitates a rise in prices in affected items. Identify this condition in which demand exceeds supply.

DEFICIT

End of second half – begin Inquiry Period

Extra Questions

M-1 Multiple answer. Solve the equation: $X$ squared equals 16 $X$.

\[ X = 0 \text{ AND } X = 16 \]

H-2 This legendary object lies on the south wall of a castle in County Cork, Ireland. Each year, visitors climb the castle and lean over its parapet to kiss the object. Name this rock, which allegedly gives kissers the "gift of gab."

BLARNEY (STONE)

SS-3 This structure was primarily built by the Iroquois [eer-uh-KWOY], who derive their native name from it. Its walls were formed by fire hardened poles, and a single one could house up to twenty related families. What Native American living structures were named for their impressive length?

LONGHOUSE

SC-4 Unlike liverworts, these plants have tissues that are specialized for conducting water and nutrients. They often live in moist, shady areas, and grow in clusters or mats. Name these green, usually small, nonvascular plants of the division Bryophyta [brigh-OFF-ih-tuh].

MOSSES

LA-5 When paired with "d’elevation” [duh-el-ah-veh-SHAHWN], this word describes the group of ballet moves in which the dancer loses contact with the floor. It describes a dance duet when paired with "de deux" [day-DOOH]. What is this three letter French word for “step”?

PAS [pah]