1. A penny weighs 3.11 grams. How much would 50 pennies weigh? \[ \times \]  
155.5 GRAMS

2. This question requires a multiple answer. In the sentence, "She will mow the lawn tomorrow," identify the verb and its tense. \[ \times \]  
WILL MOW, FUTURE (TENSE)

3. Which river was called \textit{Old Man River} and is the longest in the U. S.? \[ \bigcirc \]  
MISSISSIPPI (RIVER)

4. 12-year-old Willa Jo and Little Sister, whose voice is "lost in sadness," go live with bossy Aunt Patty following the death of their baby sister in which 2000 Newbery Honor book by Audrey Couloumbis? \[ \times \]  
GETTING NEAR TO BABY

5. What is the term referring to the art of human movement? \[ \bigcirc \]  
DANCE

6. What is the chemical symbol for lead? \[ \times \]  
Pb

7. This question requires a multiple answer. What two numbers when added equals 14 but when multiplied equals 48? \[ \bigcirc \]  
6 & 8

8. Name the first woman to cross the Atlantic on a solo flight. \[ \bigcirc \]  
(AMELIA) EARHART

9. Which punctuation mark is used to indicate contractions? \[ \bigcirc \]  
APOSTROPHE

10. The kind of shine a mineral has when it reflects light is known as what? \[ \bigcirc \]  
LUSTER

11. What is the capital of Denmark? \[ \bigcirc \]  
COPENHAGEN
12. Known for both his mobiles and stabiles, identify the American sculptor and painter of such classics as *Lobster Trap and Fish tail, Spiral*, and *Portraits in Wire and a Miniature Circus.*

(ALEXANDER) CALDER

13. After his term as Vice President under President Thomas Jefferson, he ran unsuccessfully in the 1804 election for governor of New York. His political career ended when he shot and mortally wounded Alexander Hamilton in a duel. Name him

(AARON) BURR

14. What is negative 8 times negative 5?

(POSITIVE) 40

15. Basketball. It wasn't a game. It was life. Cal paid the price for mine. So said Lonnie of his mentor in which Walter Dean Myers' book?

HOOPS

16. Identify the American inventor of the steel plow.

(JOHN) DEERE

17. Which 19th century American composer is known for such songs as “Swanee River,” “Oh, Susanna,” and “Camptown Races?”

(STEPHEN) FOSTER

18. If a substance is carcinogenic, what does it cause?

CANCER

19. Which branch of earth science is the study of weather?

METEOROLOGY

20. What is the name of the O. Henry short story in which the kidnappers pay to get rid of their victim?

THE RANSOM OF RED CHIEF

21. Who was the 15th century explorer for whom the continents of the western hemisphere were named?

(AMERIGO) VESPUCCI

22. Solve the following: \((17 + 34) - 9.\)

42

23. In the sentence, “The stinky dog needed to be bathed,” identify the part of speech of *stinky.*

ADJECTIVE
24. Concerning an iceberg, where is most of the ice found?

UNDER THE WATER

25. Name the most famous American folk hero who was a very strong lumberjack.

(PAUL) BUNYAN

26. If Angle A measures 12° and Angle B measures 62°, find the measure of the third angle in this triangle.

106°

27. Identify the river that flows from Lake Ontario to the Atlantic Ocean and forms part of the boundary between the United States and Canada.

ST. LAWRENCE (RIVER)

28. Her face was so grotesque that anyone who looked at her turned into stone. Identify the mythological horrible monster called a Gorgon who had serpents for her hair.

MEDUSA

29. Identify the Spanish explorer who became the first European to see the Mississippi River in 1541.

(HERNANDO) DE SOTO

30. What 2-word term refers to the area which includes all levels, planes, and directions both near and far from the body’s center?

PERSONAL SPACE

31. Considered by many to be America’s greatest native born poet, name the author of “Song of Myself,” “O Captain! My Captain,” and “When Lilacs Last in the Dooryard Bloom’d.”

(WALT) WHITMAN

32. What is the core or central part of the atom?

NUCLEUS

33. If Grandpa drove 600 miles in 12 hours, how many miles did he drive per hour?

50 (MPH)

34. Identify the type of error illustrated by the following sentence: She was coming out of the bathroom she ran over the garbage can.

RUN-ON or FUSED or BLENDED (SENTENCE)

35. On June 1, 1792, Kentucky became which state to join the Union?

15TH
SECOND HALF

1. If \( a = 0, \ b = 2, \) and \( c = 3, \) evaluate the following: \( 2a + bc. \)

2. One of the greatest scientists of all time, identify this scientist whose theories on motion and 3 laws of gravity laid the foundations of modern physics. He also studied light and invented a reflecting telescope that used mirrors instead of lenses.

   (SIR ISAAC) NEWTON

3. The part of the artwork that seems the nearest is known as what?

   FOREGROUND

4. There are five basic parts in a standard friendly letter. Which part is written at the left-hand margin, two lines below the heading, and begins with the word Dear and is followed by the name of the person who will receive the letter?

   SALUTATION or GREETING

5. What term refers to an old area of cities with narrow streets and small shops in North Africa?

   CASBAH

6. In ancient theater, what name was used to refer to the stage?

   PROSCENIUM

7. If Ellen had 2 types of cheese, 3 types of bread, and 2 types of lunchmeat, how many different types of combinations of sandwiches could Ellen make?

   12

8. What is the force between surfaces that slows objects down or stops them from moving?

   FRICTION

9. Evvy is brave, but can she keep her family together as the war rages around them in the historical fiction Evvy's Civil War written by which author?

   (MIRIAM) BRENNAMAN

10. Name the U. S.'s oldest permanent settlement founded in 1565.

    ST. AUGUSTINE

11. Identify the American Impressionist painter known for her paintings of mother and children. Some of her famous works include Girl Arranging her Hair, The Bath, and Mother and Child.

    (MARY) CASSATT
12. Give the term referring to the strong flow of ocean water.  
   CURRENT

13. Estimate 234,298,012 to the nearest million.  
   234,000,000

14. Capitalize the following, "His favorite food is Mexican."  
   HIS, MEXICAN

15. Which name designates the informal network of escape routes by which northern abolitionists and escaped slaves led other slaves from the South to freedom?  
   (UNDERGROUND RAILROAD)

16. If Sally bounced her basketball 60 times per minute, how many times did she bounce it in 3 minutes if she kept it up at the same rate?  
   180

16. Presented with the Congressional Medal of Honor, which American composer is known for such songs as "You’re a Grand Old Flag" and "Over There?"  
   (GEORGE MICHAEL) COHAN

17. A young Eskimo girl survives when she becomes lost in the Arctic wild in which 1973 Newbery Medal winner written by Jean Craighead George?  
   JULIE OF THE WOLVES

18. Give the term referring to the trees that lose their leaves in the fall.  
   DECIDUOUS

19. If the temperature was 48°F at 5:00 a.m., 56°F at noon, and then 59°F at 3:00 p.m., what was the difference between the highest temperature and the lowest temperature?  
   11°F

20. What term refers to an intense storm system with heavy rain and high winds blowing in a circular pattern?  
   CYCLONE

21. What term refers to a country in the process of becoming industrialized?  
   DEVELOPING (COUNTRY)

22. Identify the part of speech that shows action or links together.  
   VERB
23. In the sentence, “Whether you are going or not, you have to clean up your room,” give the correct spelling of **whether**.

**W H E T H E R**

24. Convert $7/3$ into a mixed numeral.

$2 \frac{1}{3}$

25. He was born a slave before the end of the Civil War. Identify this American agricultural scientist who discovered hundreds of ways to use a number of crops that grow well in the soils of the southern U. S. Peanuts, in particular, was one on these crops.

(GEORGE WASHINGTON) CARVER

26. Which art term refers to the apparent distance from front to back or near to far in an artwork? Techniques of perspective are used to create the illusion of this in paintings and drawings.

**DEPTH**

27. How many members are in the U. S. House of Representatives?

435

28. Which writing term refers to the specific reason a person has for writing, the goal of writing?

**PURPOSE**

29. What is 3 times .09?

.27

30. The stages of growth and change of an organism’s life is known as what two-word answer?

**LIFE CYCLE**

31. Identify the large granite mountain range in eastern California whose highest point is Mt. Whitney.

**SIERRA NEVADA**

32. Will Hope and her aunt ever find a home because they are always moving from town to town in the Newbery Honor *Hope Was Here* written by which author?

(JOAN) BAUER

33. Identify the American painter and author who studied the American Indians and then wrote *Life Amongst the Indians*. Some of his paintings include *St. Louis From the River*, *Keokuk on Horseback*, and *Bull Dance, Mandan Okipa Ceremony*.

(GEORGE) CATLIN

34. Give the correct spelling of the singular possessive form of *lady*.

**L A D Y’ S**
35. Identify the property illustrated by the following: \((6 + 9) + 3 = 6 + (9 + 3)\).

ASSOCIATIVE PROPERTY OF ADDITION

EXTRA QUESTIONS

1. Water particles change from a gas to a liquid in which process?

CONDENSATION

2. Identify the ballet movement with knees bent outward and the back held straight.

PLIE

3. Concerning the Great Lakes, identify the smallest of the Great Lakes.

(LAKE) ONTARIO

4. If Serena scored 5, 10, 3, and 2 points in her last 4 basketball games, what is her mean score?

5 POINTS

5. Which literary term refers to a direct comparison between 2 unlike objects without using like or as?

METAPHOR
1. 87.5% of the 6,400 workers voted to work four 12-hour days a week as compared to five 8-hour days a week. How many workers voted for the four 12-hour days?

5,600

2. Identify this city located on the Ohio River called the “Queen City of the West” by Longfellow that is the home to the Great American Ball Park.

CINCINNATI

3. With whom or what is the body moving refers to which element of dance?

RELATIONSHIP

4. Identify this U. S. island commonwealth since 1952 whose capital is San Juan.

PUERTO RICO

5. In both a bird and an earthworm, it is the organ that grinds up the food. Name this body part.

GIZZARD

6. These creatures were changed into birds by Aphrodite. Identify these mythological females whose beautiful voices lured men to shipwreck on their coast.

SIRENS

7. Which property is illustrated by the following example: \((a \times b) \times c = a \times (b \times c)\)?

ASSOCIATIVE PROPERTY OF MULTIPLICATION

8. It was fought over the control of international commerce on the high seas. After a lengthy campaign, the United States emerged victorious producing in the process a new set of war heroes including Winfield Scott and Andrew Jackson. Identify this war fought between the U. S. and Great Britain.

WAR OF 1812

9. Find the length of the hypotenuse of a right triangle with legs of 33 centimeters and 44 centimeters.

55 CENTIMETERS

10. What is the study of the stars and their influence on human behavior?

ASTROLOGY
11. The part of an artwork that seems the farthest away is known as what?

BACKGROUND

12. Name this evergreen plant hung at Christmas under which people kiss by tradition.

MISTLETOE

13. In the sentence, “Was his analysis actually feasible?” identify the correct spelling of feasible.

FEASIBLE

14. What term refers to the changing of a solid to a liquid?

MELTING

15. If the price of a $30 item is discounted 25%, what is the sale price?

$22.50

16. He was a great conqueror and an excellent administrator. Name this king who ruled Babylon in the 1700s B.C. best known for his code of laws.

Hammurabi

17. She brought ballet techniques to musicals such as Oklahoma! Which American woman created Fall River Legend for the American Ballet Theatre?

(AGNES) DE MILLE

18. There are several classes of pronouns. To which class of pronouns do the following belong: I, you, he, she, and it?

PERSONAL (PRONOUNS)

19. If $x$ loop $y$ is defined as $(x + 3)^2 + y$, find 3 loop 4.

40

20. What term beginning with the letter M refers to the change in appearance due to development?

METAMORPHOSIS

21. Is is located in the Saint Elias Mountains. Give the name of the mountain that is North America’s second highest and Canada’s highest?

MT. LOGAN

22. His works are realistic and often depict people in a snapshot effect. Which Impressionist artist is known for such paintings as Fifer, The Guitarist, Olympia, and Luncheon on the Grass?

(EDOUARD) MANET
23. At Princess Academy Mira has to prove she has what it takes to be a princess in which Newbery Honor book written by Shannon Hale?

PRINCESS ACADEMY

24. Convert 98.6°F to degrees Celsius.

37°Celsius

25. Name the computer term referring to the software information that tells the machine what to do with the information it receives as in BASIC, COBOL, and FORTRAN.

LANGUAGE

26. What name did Henry Clay give to the set of policies that he believed would stimulate the growth of American industry?

AMERICAN SYSTEM

27. This was confirmed in 1930 when Pluto was discovered. Identify the American astronomer who postulated that there was a planet beyond Neptune.

(PERCIVAL) LOWELL

28. 35 of the 97 people aboard were killed. Name the Zeppelin airship that exploded in 1937 in Lakehurst, New Jersey.

HINDENBURG

29. Name the German Classical composer known for such works as Pastoral Symphony and Fidelio, his only opera.

(LUDWIG VAN) BEETHOVEN

30. State the equation of the line which intersects the y-axis at (0, -3) and is parallel to the line y = 5x + 9.

Y = 5x - 3

31. In the sentence, "My favorite hobby, reading, is such a joy to me," identify the appositive.

READING

32. What term refers to the ability of an organism to grow new body parts to replace those that are lost or damaged?

REGENERATION

33. This series of laws were designed to give England control over colonial trade. Name them.

NAVIGATION ACTS

34. Give the musical term for a composition for one performer.

SOLO
35. In which coordinate would the point (6, 3) lie?

1st (COORDINATE)

36. He is considered by many to be America’s greatest dramatist. Identify this playwright known for *Anna Christie, The Iceman Cometh*, and *Long Day’s Journey Into Night*.

(EUGENE) O’NEILL

37. Which musical term refers to a group of notes that follow a certain pattern of whole and half steps?

SCALE

38. Eight Americans died in this battle on April 19, 1775. At which battle against the British did Captain John Parker tell his men, “Stand your ground! Don’t fire unless fired upon. But if they mean to have a war, let it begin here”?

(BATTLE OF) LEXINGTON

39. It comes in two forms: smooth and rough. It is dotted with ribosomes. Identify this membrane-bound organelle found in eukaryotic cells that makes direct contact with the cell nucleus and is the site of lipid and protein synthesis.

ENDOPLASMIC RETICULUM

40. Divide the following: \(9x^2y\) divided by \(9x^2/y^2\).

\(x^5/y\)
1. His is the only existing original work by an ancient master. Identify this Greek sculptor known for this prestigious work *Hermes with the Infant Dionysus* and *Aphrodite of Cnidus*.

**PRAXITELES**

2. He explored the oceans with his research ship *Calypso*. Name this French explorer who invented underwater breathing equipment known as the aqualung.

**(JACQUES) COUSTEAU**

3. The moral of the story is that physical possessions are of little value in the grand scheme of life. It features the use of flowery diction and the twist ending that helped make O. Henry so famous. Identify this short story featuring Della and James and the famous objects, the pocket watch and platinum chain and the combs and lovely hair.

**THE GIFT OF THE MAGI**

4. What is the 4-letter term for the thin, transparent layer of watercolor or ink that is usually applied in broad areas?

**WASH**

5. Identify the principle that is involved when an object standing in water looks broken at the water line because light travels slower in water than in air.

**REFRACTION**

6. What is the sum of the additive inverse plus the multiplicative inverse of -2?

\[1 \frac{1}{2}\]

7. If you sailed along the Danube River from Vienna to Belgrade, in which intermediate direction would you be traveling?

**SOUTHEAST**

8. According to the reflexive property of equality, what must \(5x + 4\) equal?

\[5x + 4\]

9. In the sentence, “Most of the teenagers met at the park for the autumn picnic,” identify the simple subject.

**MOST**

10. The disease named from its victims’ symptomatic inability to swallow water is known as hydrophobia. What is its more common name?

**RABIES**
11. Two seventh graders, a geek named Peen and a football star, are the main characters in which novel written by Jerry Spinelli?

CRASH

12. He was leader, founder, and first chairman of the People’s Republic of China from 1949 to 1959. Name the founder of the Chinese Communist Party.

(TSE-TUNG) MAO or (MAO) TSE-TUNG or (MAO) ZEDONG

13. Find the area of a triangle with a base of 50 feet and a height of 600 feet.

15,000 SQUARE FEET

14. Which literary term refers to the use of praise to ridicule or “put down” someone or something?

SARCASM

15. It may be implied by the use of tone or shadow. Which element of art occurs when a 3-dimensional quality has been achieved in a shape?

FORM

16. Name the English physician who discovered how blood circulates in the human body.

(WILLIAM) HARVEY

17. “We hold these truths to be self-evident, that all men are created equal,” are important lines from which important American document?

DECLARATION OF INDEPENDENCE

18. Identify the animal associated with the Zodiac sign, the Taurus.

BULL

19. What is the least common multiple of 21 and 28?

84

20. Be specific in your response. It requires a 2-word answer. With such wonderful composers as Johann Strauss and others, it became more and more refined. The steps became smaller with the turns smoother and more compact. By adding the graceful lift of the flowing skirts, we now have this wonderful dance. Name it.

VIENNESE WALTZ

21. If Jane borrowed $3,000 at the bank at 10% interest for 6 months, how much interest would she pay?

$150

22. This question requires a multiple answer. Identify the only U. S. state that touches 2 oceans and the 2 oceans that it touches. ALASKA, PACIFIC & ARCTIC (OCEANS)
23. Such books as *The Big Wave* and *The Good Earth* were both written by which author?

(PEARL S.) BUCK

24. Give the term referring to the dark patch on the surface of the sun that marks an area of cooler gases.

SUNSPOT

25. It occurs when the music starts out on a certain set of notes and then changes to a higher or lower set of notes. Identify this musical term beginning with the letter M referring to a change of key.

MODULATION

26. Ores mined in a region northwest of Stockholm helped in the development of the iron-and-steel industry in which country?

SWEDEN

27. Multiply the following: 2(a - 9b).

2a – 18b

28. “One if by land, and two if by sea” are lines from which poem written by Henry Wadsworth Longfellow?

PAUL REVERE’S RIDE

29. Identify the 20th century Russian composer known for such songs as “The Ugly Duckling,” the ballet *Cinderella*, the opera *The Love for Three Oranges*, and the beloved children’s classic *Peter and the Wolf*.

(SERGEY) PROKOFIEV

30. Eventually, plant succession slows down and a stable plant community is established. What do scientists name such a relatively unchanging community?

CLIMAX (COMMUNITY)

31. What is a hydrocarbon in which one or more of the bonds between carbon atoms is a double covalent or triple covalent bond?

UNSATURATED (HYDROCARBON)

32. Five unknown cards are removed from a standard deck. What is the probability that a card drawn from the remaining cards is an ace?

1/13

33. He was one of the most influential abolitionists in the United States. Identify this publisher of *The Liberator*, an anti-slavery newspaper.

(WILLIAM LLOYD) GARRISON
34. Capitalize the following sentence, "Jackson, Mississippi, is a great town to visit on vacation."

   JACKSON, MISSISSIPPI

35. The story of Prince Siegfried, who upon being told he must choose a bride now that he is 21, goes hunting, takes aim at his quarry, only to have the animals turn into lovely maidens, and falls in love with their queen, Odette, is told in which Tchaikovsky ballet?

   SWAN LAKE

36. What term refers to a place in the Earth's surface through which molten rock and other materials reach the surface?

   VOLCANO

37. Such books as *A Voyage to the Center of the Earth, Around the World in Eighty Days*, and *20,000 Leagues Under the Sea* were all written by which author?

    (JULES) VERNE

38. If 6% of the students at the middle school were absent one day, how many of the 1,200 students were present?

    1,128

39. Which article of the U. S. Constitution centers around the ratification process of the Constitution?

    (ARTICLE) VII

40. He spent his entire artistic career in a small Dutch town from which he derived his name. At the time of his death in 1516, he was internationally celebrated as an eccentric painter of religious visions who dealt in particular with the torments of hell. Name this artist known for such works as *The Seven Deadly Sins, The Ship of Fools, The Temptation of St. Anthony*, and *The Garden of Earthly Delights*.

    (IERONYMUS or JEROME) BOSCH

**EXTRA QUESTIONS**

1. Christian saves Princess Marigold from his evil mother in *Once Upon a Marigold* written by which author?

   (JEAN) FERRIS

2. Identify this fingerlike structure that lines the small intestine through which food is absorbed into the bloodstream.

   VILLUS or VILLI

3. Simplify the following: radical 15 divided by radical 3.

   RADICAL 5

4. It brought an end to fighting in North America during the French and Indian War. British General Jeffrey Amherst captured which city?

   MONTREAL

5. Give the musical term that indicates that the movement or entire composition is to be played gracefully.

   GRAZIOSO
Northern Kentucky Academic League
Varsity Match—Week 3

1. In an artwork showing two people, the depictions of the people form the “positive” type of this element of art. Contrastingly, the area between the two is the “negative” type, which may often be white. What element of art refers to sections of the work dedicated to specific purposes?

SPACE(S)

2. Of the five elements with four-letter names, this is the only one that is not a solid at room temperature. One of the noble gases, it glows orange-red when electrified. Identify element number 10, which is famous for its use in lighted signs.

NEON

3. Ryan and Rose are walking around a track. They start at the same time and Ryan walks at a rate where he can finish a lap in 3 minutes. Rose walks at a rate where she can finish a lap in 4 minutes. How many laps will Ryan walk before he meets up with Rose

4. This author sailed to French Polynesia, an experience he recounts in Omoo [OH-moo] and Typee [tie-PEE]. He describes a naïve sailor in Billy Budd, and a disinterested worker in Bartleby the Scrivener [SKRIV-ner]. Identify the creator of Ishmael and Captain Ahab in Moby-Dick.

(HERMAN) MELVILLE

5. This country sits under Bashar al-Assad’s [BASH-er al-AH-sadz] rule. The Arab Spring provoked its 2012 civil war, which has left several cities, including Homs [HUMS], in ruins. Which Muslim nation has its capital at Damascus [duh-MASK-us]?

SYRIA

6. Give the next two terms of this pattern: 3/4, 4/9, 5/16, 6/25, and so on.

7/36 AND 8/49

7. One of this measurement’s definitions is 550 foot-pounds per second. James Watt coined this term, which is also equivalent to 746 watts. What measurement compares the energy produced by steam engines to that of equines?

HORSEPOWER

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8. This artist was dependent on his brother Theo for a good portion of his life. He depicted himself with orange beard and yellow hair dappled by colored dots in his Self-Portrait in Front of an Easel, though he is better known for portraying himself with missing anatomy. Name this artist who painted a Self-Portrait with Bandaged Ear.

(VINCENT) VAN GOGH

9. This author's early children's works include Burgoo Stew and Maybe Yes, Maybe No, Maybe Maybe. She followed her 2007 Newbery Medal-winning book with two sequels, Lucky Breaks and Lucky For Good. Who wrote The Higher Power of Lucky?

(SUSAN) PATRON

10. This city was originally one hundred square miles. The Potomac [puh-TOH-muck] runs through this city, which sits between Maryland and Virginia. What is the capital of the United States?

WASHINGTON (D.C.) (Accept: DISTRICT OF COLUMBIA)

11. Eero Saarinen designed one of these structures with a concave roof and floor to ceiling glass walls, which has the three letter designation I-A-D. Part of one of these structures in New York was known as the Worldport, and that one featured a large circular roof that extended over the vehicles it served. What structures include Washington's Dulles International and New York's John F. Kennedy International?

AIRPORT(S) (Accept (DULLES) (INTERNATIONAL) AIRPORT, (JOHN F. KENNEDY) (INTERNATIONAL) AIRPORT, and reasonable equivalents)

12. The basis for the science of thermodynamics, it was proposed in 1824. It is used as a performance standard for all engines that operate between low and high temperatures. Name this thermodynamic cycle that begat the concept of entropy [EN-truh-pee].

CARNOT (CYCLE) [kahr-NOH]

13. This author profiles David Balfour, a young man from the Scottish Lowlands, in Kidnapped. He explores the duality of human nature through the title characters of The Strange Case of Dr. Jekyll and Mr. Hyde. Who created Jim Hawkins and Long John Silver in Treasure Island?

(ROBERT LOUIS) STEVENSON

14. This geographic landform separates the Gulf of Mexico from the Caribbean Sea. Though now a part of Mexico, it once housed the Mayan culture at Chichen Itza [CHICH-in EET-zah]. Identify this peninsula, the home of Cancún [can-KOON].

YUCATÁN (PENINSULA)
15. This subset of the real numbers consists of all numbers that can be written as a ratio of integers excluding zero in the denominator. What set of numbers includes 3/5 and 4?

RATIONAL (NUMBERS)

16. In a bag of marbles, there are 4 red marbles, 10 blue marbles, and 12 green marbles. Giving your answer as a simplified fraction, what fraction of the marbles are blue?

5/13

17. In Britain, a note of this duration is known as a "crotchet." It may be subdivided into eight thirty-second notes, while one double whole note may be subdivided into eight of these notes. Name this type of note, of which there are three in a bar of 3/4 [three-four] time.

QUARTER (NOTE)

18. These gaps are about 2 nanometers [NAN-uh-mee-terz] wide. When an impulse gets to the end of a nerve, chemicals called neurotransmitters jump these gaps. What spaces in the nervous system move messages around the brain?

SYNAPSES [sih-NAP-seez] (Accept: SYNAPSE)

19. This biographical novel profiles Manjiro [MAHN-je-ro], a fourteen-year-old fisherman who becomes one of the first Japanese to visit the U.S. He learns English, and when Americans end Japanese isolation, the shogun uses him as an interpreter. What is this 2011 Newbery Honor book, written by Margi Preus [MAR-je PROYS]?

HEART OF A SAMURAI

20. This geographic feature houses twenty two of the world's largest cities. Examples include the Chesapeake Bay and the Gulf of St. Lawrence. What is this biome, where a freshwater river flows into the ocean?

ESTUARY [ES-choo-er-ee]

21. In the vet's office, there were 42 animals, consisting of dogs and cats. There were 5 times as many dogs as cats. How many dogs were there in the vet's office?

35 (DOGS)

22. The orbicularis oculi [or-bick-yuh-LER-us AHK-yuh-lie] reflexively closes your eyes when you do this. Antihistamines can stop you from performing this semi-autonomous action by blocking your H1 receptors. What convulsive expulsion of air from the lungs through the nose and mouth is usually caused by foreign particles irritating the nasal mucosa [myoo-KOH-suh]?

SNEEZE
23. The speaker delivered this oration on March 20, 1775, during the Second Virginia Convention in Richmond. It urges the convention's president, Peyton Randolph, to organize a volunteer militia in every Virginia county. Identify this Revolutionary-era speech by Patrick Henry.

GIVE ME LIBERTY OR GIVE ME DEATH

24. This city was founded by the Pharaoh Menes [MEE-neez] around 3000 B.C. It was a vital Mediterranean port until the rise of Alexandria, even serving as the capital during the Old Kingdom. Identify this Egyptian capital which shares a name with a city in Tennessee.

MEMPHIS

25. This composer transcribed Beethoven's symphonies for solo piano, as well as numerous excerpts from contemporary operas. The subject of a namesake 19th-century "mania," his technical brilliance on piano is demonstrated in his Transcendental Etudes. What Hungarian composer of the Mephisto [muh-FIS-toh] Waltzes invented the symphonic poem?

(FRANZ) LISZT [LIST]

26. How many teaspoons are in one tablespoon?

3 (TEASPOONS)

27. One song by this man proclaims, "You better start swimmin' or you'll sink like a stone, for the times they are a-changin'." His album Highway 61 Revisited opens with his song "Like a Rolling Stone." What American songwriter composed "Blowin' in the Wind" and "Mr. Tambourine Man"?

(BOB) DYLAN (Accept: (ROBERT) ZIMMERMAN)

28. Production of this substance is called lactation. Formulated and secreted from mammary glands, it is the main source of sustenance for young mammals. Identify this whitish liquid that contains proteins, fats, lactose, and various vitamins and minerals.

MILK

29. This city-state was home to men such as Socrates and Pericles [PER-uh-kleez]. It was home to the Parthenon [PARTH-uh-non], is the birthplace of democracy, and warred with Sparta until being crippled by plague. Name this city which is today the capital of Greece.

ATHENS

30. This four time Pulitzer winning poet read one of his works at Kennedy's inaugural address. Who wrote "Mending Wall," "The Road Not Taken" and "Stopping by Woods on a Snowy Evening?"

(ROBERT) FROST

Emma
31. Suppose that lines m and n are parallel. If the slope of line m is negative two-thirds, what is the slope of line n?

NEGATIVE TWO-THIRDS

32. The male of this species is venomous, and has sharp spurs on the heels of its rear feet. It hunts for food underwater, and because it doesn’t have teeth, it uses bits of gravel to help mash up its meal. First believed by scientists to be a hoax, what animal is described as a hodgepodge combination of duck, beaver, and otter?

(DUCK-BILLED) PLATYPUS

33. This dynasty flourished, like the earlier Han [HAHN] and Tang [TAHNG], until being conquered by Mongols. It was a time of innovation and prosperity and saw the first use of banknotes, the compass, and gunpowder. Name this Chinese dynasty that lasted from 960 to 1279.

SONG [SOHNG] (DYNASTY)

34. This instrument’s lowest string is tuned to the C below middle C. It is the only instrument in the modern orchestra whose music is normally written in alto clef. Name this string instrument, whose pitch and size is in between the violin and the cello.

VIOLA(S)

35. This play centers around the marriages of the Duke of Athens and the Queen of the Amazons. It involves to groups of people: Athenians, including Theseus and Hippolyta, and the fairies, including Oberon and Titania. Give this comedy by William Shakespeare.

(A) MIDSUMMER NIGHT’S DREAM

36. A rectangular prism has a length, width, and height of 5 units each. What is the surface area, in square units, of the rectangular prism?

150 (SQUARE UNITS)

37. In the scientific world, this word is a gaseous mass or envelope, usually made up of distinct layers, which surrounds a celestial body. It plays a major role in the water cycle, the nitrogen cycle and the carbon cycle. Identify the collective name for the mixture of gases surrounding the Earth.

ATMOSPHERE
38. Paradoxically, this type of Baroque [buh-ROHK] sonata required four instrumentalists. Bill Evans and Vince Guaraldi [gar-AHL-dee] led jazz ensembles of this type, while its typical string ensemble lacks a double bass and a second violin. What term generally describes any ensemble of three musicians?

TRIO(S) (Accept: TRIO (SONATA(S)) or (JAZZ or STRING) TRIO(S))


(ARTHUR CONAN) DOYLE

40. This navigator established the first permanent European settlement on the American mainland. He became involved in exploration after escaping his creditors as a stowaway on a ship headed for Panama. Name this explorer who was the first to see the Pacific Ocean.

(VASCO [VAS-koh] NUÑEZ [NOON-yez] DE) BALBOA [BAL-boh-uh]

End of first half – begin Inquiry Period

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1. In a 30, 60, 90 right triangle, the side across from the 30 degree angle has a length of 8 units. What is the length, in units, of the hypotenuse of the triangle?
   
   16 (UNITS)  
   
   Helen

2. One of these is Great, another is a Crab, and yet another is a Horsehead. These interstellar phenomena are galactic clouds of dust and gases, and some scientists believe stars are "born" here. Give the name for these space clouds.
   
   NEBULA

3. Tall tales recount how this folk hero climbed Niagara Falls on an alligator's back, drank the Gulf of Mexico dry, and twisted the tail off a comet. In reality, he was a Tennessee congressman who died defending the Alamo in 1836. Who was this "King of the Wild Frontier," known for his coonskin cap?
   
   (DAVY) CROCKETT

4. The "grand" [GRAHN(d)] version of this ballet move is performed in second position. In addition to that type, in which one leg is extended out to the side, it may also be done with the raised foot resting on the straight leg. In what move does a ballet dancer spin the entire body on a single leg?
   
   PIROUETTE

5. This geological formation came about due to lowered sea levels during the Ice Age. It allowed new species to migrate from continent to continent, including the first Native Americans. Name this temporary route which connected Siberia and Alaska.
   
   BERINGIA [BEHR-in-djee-uh] (Accept: LAND BRIDGE)

6. Given the data: 8, 10, 12, 4, 10, 22, 12, and 16, what is the range of the data?
   
   18

7. Identify the indefinite pronoun in the following sentence: There is nothing that irritates me more than rude people.
   
   NOTHING
8. This colony was established in 1638 and lasted until 1655, when it was conquered by the Dutch and made part of New Netherland. Settled primarily by its namesake inhabitants and Finns, this colony had its capital and first settlement at Fort Christina, near modern day Wilmington, Delaware. Give this New World colony founded by a Scandinavian Empire.

NEW SWEDEN

9. This dance originated as a late 19th century fusion of European and South American folk dances. This contact dance for couples involves leading, back and forth side steps, often done with clasped hands extended from the body. Name this Argentinian dance, which “takes two to” do.

TANGO

10. This transport system moves oxygen and nutrients to cells, and removes waste. What body system includes the heart, veins, arteries, and blood?

CIRCULATORY (SYSTEM)

11. In places of worship, this document is always a scroll, and is kept in a container known as the “Ark of Law.” It includes five books, and is believed to have been authored by Moses. Name this holy text containing God’s teachings and laws for the Jewish people.

TORAH (Accept: PENTETEUCH)

12. My favorite subjects in high school were English and Latin; however, my least favorite subject was Algebra II. Which words in the previous sentence should be capitalized?

ENGLISH, LATIN, ALGEBRA (any order)

13. Stating your answer as a reduced fraction, what is the probability of rolling a composite number on a standard six-sided die?

ONE-THIRD

14. The February 2008 decision to abandon HD DVD technology gave a market victory to this rival video format. Information can be packed on discs at a rate of 25 gigabytes per layer, thanks to the laser of shorter wavelength. What video format shares its name with a colorful player that set the standard in high definition home entertainment?

BLU-RAY

15. This document created a single-vote-per-state legislature, and left open the possibility of acquiring Canada. Under it, executive and judicial branches did not exist, and the legislature did not have the power to raise armies or to tax. Name this document, which from 1781 to 1789 served as the basis for America's national government.

ARTICLES OF CONFEDERATION
16. In the book of Exodus, it is said that Moses's mother set him afloat in a basket made of this. It was traditionally made by cutting the pith of a plant into strips, and beating them together into sheets. Name the plant that was the symbol of Lower Egypt, and was used to make one of the first versions of paper.

PAPYRUS

17. Solve the inequality: 5 minus $X$ is less than $8$ plus $X$.

$X$ IS GREATER THAN $-3/2$

18. The name for this part of speech ultimately derives from a Latin word that means "to throw to." The part of speech primarily describes a particular quality of a word it modifies. What part of speech is any member of a class of words that modify nouns and pronouns?

ADJECTIVE

19. This conflict included pro-slavery Border Ruffians, led by William Quantrill, and anti-slavery Free-Staters, one of whom was John Brown. It featured a Constitutional fight and several battles, including the Pottawatomie [POT-uh-WAHT-uh-mee] massacres. Give this violent political episode to determine whether a state would be free or slave.

BLEEDING KANSAS

20. This god fathered Polyphemus [pahl-ee-FEE-mus] the cyclops, and originated all Greek earthquakes. He also fathered the hero Theseus, and drew lots with his brothers to divide the world among them. Which Greek deity carries a trident and rules the sea?

POSEIDON

21. In Shakespeare's Hamlet, Polonius' [poh-LOH-nee-us-sez] lines of this type include his comment about method in madness, and his thought "I'll speak to him again." A movie actor who speaks a line of this type may deliver it directly to the camera. What type of dramatic line is a short comment made not to other characters, but to the audience?

ASIDE

22. Koalas are unique among marsupials in that this structure opens from the bottom. A joey will spend up to eight months in this protective place, seeking food, warmth, and safety. Name this distinct characteristic of most marsupials, where their young is carried.

POUCH

23. Spelling required. The sarcastic misanthrope cured the invalid. Spell the word in the previous sentence defined as, "suffering from disease or disability".

I-N-V-A-L-I-D

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24. State your answer in standard form. If a square has side with a length of 3X plus 2, units, what is the area, in square units, of the square?

9X SQUARED PLUS 12X PLUS 4 (SQUARE UNITS)

25. This conflict had 23,000 casualties, making it the bloodiest single day of the Civil War. George McClellan repelled Robert E. Lee's invasion of Maryland, but failed to pursue the Rebels. Identify this Civil War battle, fought on September 17, 1862.

(BATTLE OF) ANTIETAM (Accept: (BATTLE OF) SHARPSBURG)

26. Given the function G of X equals 3X - 1, what is the x intercept of the function?

1/3 (Accept: (1/3, 0))

27. One character in this play is driven mad trying to wash out an imaginary spot of blood. It ends as Malcolm is hailed as the new king of Scotland, with Macduff having slain the title character. Identify this play by Shakespeare in which the title character and his wife conspire to murder Duncan.

MACBETH

28. Technically, it is called herpes zoster. The same virus that causes chickenpox can cause this disease, marked by inflammation, pain and eruptions upon the skin. What is the name of this acute disease that causes a blistering rash?

SHINGLES

29. The prefix "trans-" means "across". Which word with this prefix means "to carry across"?

TRANSPORT

30. This statesman founded the Progressive Party of 1912. He served in the Spanish-American War, and coined the slogan, "Speak softly and carry a big stick." Name this twenty-sixth, and youngest, President.

(THEODORE) ROOSEVELT

31. Invented by G.E. scientists to be a synthetic rubber compound during World War Two, it was first sold as "Gooey Gupp." Marketing consultant Peter Hogsdon began selling it in plastic egg-shaped containers around 1950. Name this almost accidental toy based on silicone polymers.

SILLY PUTTY
32. This Broadway protagonist meets defeat when mirror knights force him to view his own reflection. Sancho Panza explains that he follows this man because “I Really Like Him,” and the man sings to Aldonza [al-DON-zuh], whom he calls Dulcinea [dull-sin-AY-uh], about his “Impossible Dream.” Name this protagonist of Man of La Mancha, created by Miguel de Cervantes [mee-GEL day sair-VAHN-tays].

DON QUIXOTE [kee-HOH-tay] (DE LA MANCHA)

33. This document includes the Free Exercise and the Establishment Clauses. It guarantees freedoms of assembly, petition, the press, speech, religion. Name this Amendment to the Constitution, part of the Bill of Rights.

FIRST (AMENDMENT)  

34. This five-letter word was borrowed directly from German without change, and is often used after the word "teenage." What German word refers to a feeling of insecurity and anxiety?

ANGST  

35. What is the equation of a horizontal line that goes through the point (5, -3)?

Y = -3  

36. In August 2012, this company lost a lawsuit some described as, whether or not “cool” could be patented. That decision could lead to a ban on the sale of this company’s “Galaxy” line of products. Name this Korean company, a chief smartphone rival of Apple.

SAMSUNG  

37. Many of Shakespeare’s sonnets end in this type of poetic device. Identify this poetic element that consists of a pair of rhymed lines, which may or may not constitute a separate stanza in a poem.

COUPLLET  

38. The cube root of 100 is closest to what integer?

5  

39. The medical association that represents this kind of specialist was formed in 1924, when several different societies merged. Such as specialist is able to diagnose and treat electrophysiology and coronary artery disease. What medical specialist deals with the problems of the heart and circulation?

CARDIOLOGIST
40. This financial phenomenon occurred at the federal level while Bill Clinton was President. Due to the laws of supply and demand, it often pushes prices down for the item affected. What is the condition in which supply exceeds demand?

SURPLUS

End of second half – begin Inquiry Period

Extra Questions

M-1 Multiple answer. Solve the equation and state your answer as a simplified radical. $x^2$ equals 12.

2 RADICAL 3 AND -2 RADICAL 3 (Accept: POSITIVE AND NEGATIVE 2 RADICAL 3)

SS=2 This privateer had a 20,000 ducat [DUCK-at] bounty on his head courtesy, of King Philip the Second. In his ship The Golden Hind, he sailed for England and completed the second circumnavigation of the world. Identify this sea captain who helped defeat the Armada and raided Spanish ships.

(FRANCIS) DRAKE

H-3 This type of music contains shorthand notations like “C9(sus4)/E” [see nine suss four over e]. Most historians associate its origins with New Orleans. Which musical genre did John Coltrane and Louis Armstrong popularize?

JAZZ

LA-4 This writer’s works of fiction include The Salt Eaters; Gorilla, My Love; and "Blues Ain’t No Mockin’ Bird." In one story, she writes of Squeaky, who trains for the May Day race while caring for her "not quite right" brother. Name the author of "Raymond’s Run."

(TONI CADE) BAMBARA

SC-5 This, quote, "most important chemical reaction in the biosphere," unquote, was the subject of the 1988 Nobel Prize in Chemistry. It needs two raw materials, water and carbon dioxide. What process also needs energy, usually in the form of sunlight, and the green pigment chlorophyll?

PHOTOSYNTHESIS