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Topic Break Down

Topic	No. of Questions
Topic 1, Math	631
Topic 2, Reading	630
Total	1261

QUESTION NO: 1

A contractor is going to re-tile a rectangular section of the kitchen floor. If the floor is 6ft × 3ft, and he is going to use square tiles with a side of 9in. How many tiles will be needed?

- A. 24
- B. 40
- C. 32
- D. 2

ANSWER: C**Explanation:**

We have to be careful of our units. The floor is given in feet and the tile in inches. Since the floor is 6ft × 3ft, we can say it is 72in × 36in, because 12 inches equals 1 foot. If the tiles are 9in × 9in we can fit 8 tiles along the length and 4 tiles along the width. To find the total number of tiles we multiply $8 \times 4 = 32$. Alternately we could find the area of the floor (72×36 , and divide by the area of the tile 9×9).

QUESTION NO: 2

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspecting as domestic fowls in North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so

broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual egging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Based on the context in which it is used in the first paragraph, what is the meaning of the underlined word “acme”?

- A. pinnacle
- B. quilt
- C. warmth
- D. usefulness
- E. employment

ANSWER: A

Explanation:

The word “acme” is used in the following sentence in the passage: “Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability.” If we were to remove the word “acme” from this sentence and replace it with another term, what term would make sense? Something like “peak” or “perfection” would make sense. Considering that, let’s now look at the answer choices. While the sentence is talking about “warmth” and bedding, of which a “quilt” is a type, it’s clear that neither “warmth” nor “quilt” can be the correct answer. “Usefulness” and “employment” don’t make as much sense as “pinnacle” does, so “pinnacle” is the correct answer.

QUESTION NO: 3

In conclusion, it seized first the corpse of the daughter, and thrust it up the chimney, as it was found; then that of the old lady, which it immediately hurled through the window headlong. As the ape approached the casement with its mutilated burden, the sailor shrank aghast to the rod, and, rather gliding than clambering down it, hurried at once home – dreading the consequences of the butchery, and gladly abandoning, in his terror, all solicitude about the fate of the Ourang-Outang. The words heard by the party upon the staircase were the Frenchman’s exclamations of horror and affright, commingled with the fiendish jabberings of the brute.

I have scarcely anything to add. The Ourang-Outang must have escaped from the chamber, by the rod, just before the break of the door. It must have closed the window as it passed through it. It was subsequently caught by the owner himself, who obtained for it a very large sum at the Jardin des Plantes. Le Don was instantly released, upon our narration of the circumstances (with some comments from Dupin) at the bureau of the Prefect of Police. This functionary, however well disposed to my friend, could not altogether conceal his chagrin at the turn which affairs had taken, and was fain to indulge in a sarcasm or two, about the propriety of every person minding his own business.

Which selection best describes the action referred to by “break of the door” 2nd paragraph?

- A. The door was broken into by using a rod.
- B. The party broke down the door.
- C. The party entered through the door broken by the brute.

- D. The Ourang-Outang broke the door to gain entry.
- E. The sailor broke into the chamber allowing the Ourang-Outang to follow.

ANSWER: B

Explanation:

We know the Ourang-Outang did not break the door because it escaped from the window just before the door was broken. Since everyone else had already escaped or was dead, only someone from the outside could have broken the door. The party of people investigating the noises coming from the chamber had to break down the door to gain entrance.

QUESTION NO: 4

The knight was assigned guard duty, and stood _____ outside the king's door whenever he met with his advisors, to ensure that no one tried to spy on or disrupt the meetings.

- A. asleep
- B. neutral
- C. wheedling
- D. host
- E. sentry

ANSWER: E

Explanation:

We know that "the knight was assigned guard duty," so we need to pick out an adjective that conveys this information. While "asleep" might make grammatical sense in the sentence, it doesn't make sense for the knight to be sleeping on the job, so "asleep" cannot be the correct answer. "Sentry," a word that when used in the phrase "stand sentry" means "keep guard or control access to a place," is the correct answer because it best fits the sentence's context.

QUESTION NO: 5

The sales price of a car is \$12,590, which is 20% off the original price. What is the original price?

- A. \$14,310.40
- B. \$14,990.90
- C. \$15,290.70
- D. \$15,737.50
- E. \$16,935.80

ANSWER: D**QUESTION NO: 6** $1.75 \times 105 =$

- A. 175,000
- B. 17,500
- C. 1,750
- D. 0.00175
- E. 0.000175

ANSWER: A**QUESTION NO: 7**

Adapted from "Introduced Species That Have Become Pests" in *Our Vanishing Wild Life, Its Extermination and Protection* by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New

York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Howell's story is different from that of Mr. Trouvelot's in that _____.

- A. Howell acted alone while Trouvelot worked with a group
- B. Howell worked for a zoo while Trouvelot was a scientist
- C. Howell could be punished by law, while Trouvelot could not
- D. Howell sought to capture insects while Trouvelot sought to release them
- E. Howell acted purposely while Trouvelot introduced the moths by accident

ANSWER: E

Explanation:

According to the passage, what did Howell do? He was caught skinning bison in Yellowstone National Park and there was no way to punish him, a point about which the author is frustrated. What did Mr. Trouvelot do? He accidentally released gypsy moths into the United States, where they've caused a lot of trouble since. Nothing in the passage says that Mr. Trouvelot worked in a group, so we can eliminate the answer "Howell acted alone while Mr. Trouvelot worked with a group." Similarly, while the passage says that Mr. Trouvelot was a scientist (an entomologist), nothing says that Howell worked for a zoo, so "Howell worked for a zoo while Trouvelot was a scientist" can't be correct. The author brings up Howell's story as an example of someone who couldn't be punished by law for what the author considers an egregiously bad act, so "Howell could be punished by law, while Mr. Trouvelot could not" can't be correct either. Howell's story has nothing to do with insects and Mr. Trouvelot released his gypsy moths on accident, so "Howell sought to capture insects while Trouvelot sought to release them" cannot be the correct answer. This leaves us with one answer choice, the correct one: "Howell acted purposely while Trouvelot introduced the moths by accident."

QUESTION NO: 8

All of the following could be the possible side lengths of a triangle EXCEPT:

- A. 2,6,7
- B. 5,7,12
- C. 6,7,9
- D. 3,4,5
- E. 5,10,14

ANSWER: B

Explanation:

The length of the third side of a triangle must always be between (but not equal to) the sum and the difference of the other two sides. For instance, take the example of 2, 6, and 7.

$6 + 2 = 8$ and $6 - 2 = 4$. Therefore, the third side length must be greater than 4 and less than 8. Because 7 is greater than 4 and less than 8, it is possible for these to be the side lengths of a triangle.

The 5, 7, 12 answer choice is the only option for which this is not the case.

$7 + 5 = 12$ and $7 - 5 = 2$. Therefore, the third side length must be between 2 and 12. Because it is equal to the sum, not less than the sum, it is not possible that these could be the side lengths of a triangle.

QUESTION NO: 9

Adapted from *Essays on Early Ornithology and Kindred Subjects* by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the

G. de Sta. Elena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn – assagais of a kind – and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called

"guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass.

Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of

the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguijns."

The underlined word "cavil" most nearly means _____.

- A. write about
- B. believe
- C. guess
- D. comprehend
- E. nitpick

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south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

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The underlined word "cavil" most nearly means _____.

ANSWER: E

Explanation:

In the fifth paragraph, the author states, "There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris." The argument is that the description of the penguins' behaviour is fine apart from one detail. So, the author is saying there is nothing to nitpick or challenge apart from the assumption that the nests are made from fish bones.

QUESTION NO: 10

Factor the following trinomial:

$$x^2 - x - 12$$

- A. $(x - 6)(x + 2)$
- B. $(x - 3)(x - 4)$
- C. $(x + 4)(x - 3)$
- D. $(x - 1)(x - 12)$
- E. $(x + 3)(x - 4)$

ANSWER: E

Explanation:

$$x^2 - x - 12$$

To trinomial is in $ax + bx + c$ form

In order to factor, find two numbers whose product is c , in this case -12 , and whose sum is b , in this case -1 Factors of -12 :

$-1, 12; 1, -12; -3, 4; 3, -4; -2, 6; 2, -6$

Which of these pairs has a sum of -1 ?

3 and -4

Therefore the factored form of $x^2 - x - 12$ is:

$$(x + 3)(x - 4)$$

QUESTION NO: 11

Although Richard had disagreements with his colleagues, they were _____ in comparison to the immense differences he had experienced at his previous job.

- A. amusing
- B. minute
- C. calming
- D. acceptabl
- E. typical

ANSWER: B**Explanation:**

The comparison here is really a contrast. This can be ascertained by the “although” that opens the sentence, implying such a contrast. If the differences at the previous job were immense, they were large. The word “minute” is an excellent opposite to his. When used as an adjective, it means “very small,” often implying that the thing is so small so as not to matter at all. This use of “minute” is related both to “diminish” as well as “diminution,” both words pertaining to shrinking or becoming smaller.

QUESTION NO: 12

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in *Tropical Nature, and Other Essays* by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, “All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the *Polytmus*, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.” What do Azara, Bullock, and Waterton have in common?

- A. They are all types of hummingbirds.

- B. They are all critics of the writer and disagree with his theory.
- C. They are all scientists who think hummingbirds eat insects.
- D. They are all types of birds that eat insects.
- E. They are all scientists who think hummingbirds eat flower nectar.

ANSWER: C

Explanation:

Azara, Bullock, and Waterton are all mentioned near the beginning of the passage. The author writes, "All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects." He then mentioned the following:

(1) "Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers."

(2) "Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs."(3) "Waterton made a similar statement."

The author is suggesting that Azara, Bullock, and Waterton fall into the group of "every close observer of their habits." The three also make statements about hummingbirds. From this, we can narrow down our answers to three choices: that Azara, Bullock, and Waterton are critics of the author, scientists who think hummingbirds eat insects, or scientists who think hummingbirds eat flower nectar. Nowhere in the passage do the statements made by these writers appear to contradict the author's opinion, so we can discard the idea that Azara, Bullock, and Waterton are critics of the author. So, are they saying that hummingbirds eat flower nectar or insects? The author says that early observers of hummingbirds thought that they eat flower nectar, but that more recent scientists – like the three quoted – think that they eat insects. The statements made by each also relate to hummingbirds eating insects, so the correct answer is "They are all scientists who think hummingbirds eat insects."

QUESTION NO: 13

You are lying 120ft away from a tree that is 50 feet tall. You look up at the top of the tree. Approximately how far is your hear from the top of the tree in a straight line?

- A. 50 feet
- B. 75 feet
- C. 120 feet
- D. 130 feet
- E. 150 feet

ANSWER: D

QUESTION NO: 14

If $11 + 3x$ is 29, what is $2x$?

- A. 2
- B. 12
- C. 6
- D. 36

ANSWER: B

Explanation:

First, solve for x :

$$11 + 3x = 29 \quad 29 - 11 = 3x \quad 18 = 3x \quad x = 6$$

Then, solve for $2x$: $2x = 2 \times 6 = 12$

QUESTION NO: 15

Which of the following equations has more than one solution?

- A. All of the other responses gives a correct answer.
- B. $|6x + 16| = |2(x + 6) + 4(x + 1)|$
- C. $|6x + 16| = |2(x + 8) + 4(x + 1)|$
- D. $|6x + 16| = |2(x + 2) + 4(x + 1)|$
- E. $|6x + 16| = |2(x + 4) + 4(x + 1)|$

ANSWER: B

Explanation:

The question is equivalent to asking the following:

For what value of A does the equation $|6x + 16| = |2(x + A) + 4(x + 1)|$ have more than one solution? The equation simplifies as follows:

$$|6x + 16| = |2x + 2A + 4x + 4|$$

$$|6x + 16| = |6x + (2A + 4)| \quad |6x + 16| = |6x + 4 + 2A|$$

If the absolute values of two expressions equal, then either the expressions themselves are equal or they are each other's opposite. Taking the latter case:

$$6x + 16 = -(6x + 4 + 2A)$$

$$6x + 16 = -6x - 4 - 2A$$

$$12x + 16 = -4 - 2A \quad 12x = -20 - 2A$$

$$x = \frac{-20 - 2A}{12}$$

Regardless of the value of A, exactly one solution is yielded this way.

The question becomes as follows: for which value of A does the other way yield a solution?

Set:

$$6x + 16 = 6x + 4 + 2A \quad 16 = 2A + 4$$

If this is a false statement, then this yields no solutions.

If this is a true statement, then this automatically yields the set of all real numbers as the solution set. We solve for A: $12 = 2A$

$$A = 6$$

As a result, the statement $|6x + 16| = |2(x + 6) + 4(x + 1)|$ has infinitely many solutions, and the other three statements have exactly one.

QUESTION NO: 16

Herbert had none of the social graces; he was appallingly _____ .

- A. unlimbered
- B. underrated
- C. unfettered
- D. uncluttered
- E. uncouth

ANSWER: E

Explanation:

Having no social graces means to be rude, or crude. The obvious answer is uncouth (uncultured, crude, boorish).

QUESTION NO: 17

Because of his impeccable enunciation and vocal tone, Thomas was often asked to be the _____ at the town's yearly reading of the classic Christmas tale.

- A. announcer
- B. mascot

- C. Santa
- D. crier
- E. lector

ANSWER: E

Explanation:

Do not be fooled by the “Santa” or “mascot” options, which really have little to do with the description of Thomas’ enunciation and vocal tone. The most tempting trap answer is likely “announcer,” but one does not usually read a tale in the manner of being an announcer. (That type of proclamation more appropriately describes either an introduction to some other thing or the type of speaking done by one conveying some information at an event like a sports match.) The word “lector” literally means “reader.” While it is often used to describe one who reads scriptures in a church service, it does have the more general meaning of “reading.” It is derived from the Latin for “to read” and is related to English words like “legible,” “lectern,” and “lecture.”

QUESTION NO: 18

In $\triangle ABC$ the length of AB is 15 and the length of side AC is 5. What is the least possible integer length of side BC?

- A. 9
- B. 11
- C. 10
- D. 13
- E. 17

ANSWER: B

Explanation:

Rule – the length of one side of a triangle must be greater than the difference and less than the sum of the lengths of the other two sides.

Given lengths of two of the sides of the $\triangle ABC$ are 15 and 5. The length of the third side must be greater than $15 - 5$ or 10 and less than $15 + 5$ or 20. The question asks what is the least possible integer length of BC, which would be 11.

QUESTION NO: 19

Phillip can paint y square feet of wall per minute. What area of the wall can he paint in 2.5 hours?

- A. $150y\text{ft}^2$
- B. $25y\text{ft}^2$

- C. 2.5yft²
- D. 50yft²
- E. 300yft²

ANSWER: A

Explanation:

Every minute Phillip completes another y square feet of painting. To solve for the total area that he completes, we need to find the number of minutes that he works. There are 60 minutes in an hour, and he paints for 2.5 hours. Multiply to find the total number of minutes.

$$\left(60 \frac{\text{min}}{\text{hr}}\right)(2.5\text{hr}) = 150 \text{ min}$$

If he completes y square feet per minute, then we can multiply y by the total minutes to find the final answer.

$$\left(y \frac{\text{ft}^2}{\text{min}}\right)(150\text{min}) = 150y \text{ ft}^2$$

QUESTION NO: 20

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from *The Utility of Birds* by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspecting as domestic fowls. In North America, where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual egging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

The tone of the third paragraph of the passage _____.

- A. is completely objective
- B. casts the hunters' efficiency in a positive light
- C. makes the ducks' situation seem pitiable
- D. emphasizes the financial success of the Labrador feather voyages
- E. helps readers empathize with the hunters' difficult situation

ANSWER: C

Explanation:

How can we describe the author's tone in the passage's third paragraph? Well, the author writes that "the birds became the victims of the ships' crews" when "the hunters were able to surround the helpless birds, drive them together, and kill them with clubs"; afterwards, he refers back to this as "this wholesale slaughter." The author is certainly not attempting to cast the hunters' efficiency in a positive light or help readers empathize with the hunters' difficult situation. The author's tone doesn't have any effects relating to the financial success of the Labrador feather voyages. It's also not objective: the hunters are being described as being the bad guys here, and the ducks are portrayed as being helpless. The best answer choice is the one that reflects this: that the author's tone "makes the ducks' situation seem pitiable."