



**MATHEMATICS:**

**30 Questions, 30 Marks**

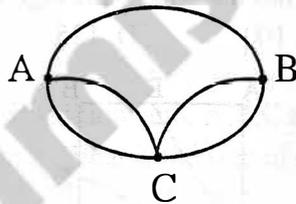
- Of the following, which is greater than  $0\frac{1}{2}$ ?  
Indicate ALL such fractions.  
A.  $\frac{2}{5}$       B.  $\frac{4}{7}$       C.  $\frac{4}{9}$       D.  $\frac{5}{11}$       E.  $\frac{6}{13}$       F.  $\frac{8}{1}$       G.  $\frac{9}{17}$
- If an object travels at five feet per second, how many feet does it travel in one hour?  
A. 30      B. 300      C. 720      D. 1800      E. 18000
- What is the average (arithmetic mean) of all the multiples of ten from 10 to 190 inclusive?  
A. 90      B. 95      C. 100      D. 105      E. 110
- A cubical block of metal weighs 6 pounds. How much will another cube of the same metal weigh if its sides are twice as long?  
A. 48      B. 32      C. 24      D. 18      E. 12
- In a class of 78 students 41 are taking French, 22 are taking German. Of the students taking French or German, 9 are taking both courses. How many students are not enrolled in either course?  
A. 6      B. 15      C. 24      D. 33      E. 54
- A straight fence is to be constructed from posts 6 inches wide and separated by lengths of chain 5 feet long. If a certain fence begins and ends with a post, which of the following could be the length of the fence in feet? (12 inches = 1 foot).  
Indicate ALL such answers.  
A. 17      B. 28      C. 35      D. 39      E. 50

7.  $(\sqrt{2} - \sqrt{3})^2 =$

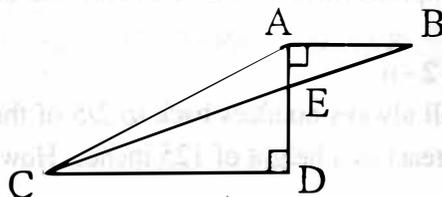
- A.  $5 - 2\sqrt{6}$       B.  $5 - \sqrt{6}$       C.  $1 - 2\sqrt{6}$       D.  $1 - \sqrt{2}$       E. 1

8.  $230 + 230 + 230 + 230 =$

- A. 8120  
B. 830  
C. 920  
D. 230  
E. 226

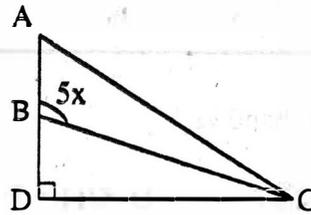


- Amy has to visit towns B and C in any order. The roads connecting these towns with her home are shown on the diagram. How many different routes can she take starting from A and returning to A, going through both B and C (but not more than once through each) and not travelling any road twice on the same trip?  
A. 10      B. 8      C. 6      D. 4      E. 2

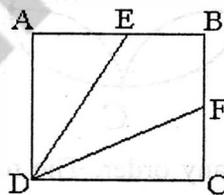


- In the figure above  $AD = 4$ ,  $AB = 3$ ,  $AE = 1$  and  $CD = 9$ . What is the area of triangle AEC?  
A. 18      B. 13.5      C. 9      D. 4.5      E. 3





11. Which of the following could be a value of  $x$ , in the diagram above?  
Indicate ALL such values.  
A. 10      B. 20      C. 30      D. 40      E. 50
12. Helpers are needed to prepare for the fete. Each helper can make either 2 large cakes or 35 small cakes per hour. The kitchen is available for 3 hours and 20 large cakes and 700 small cakes are needed. How many helpers are required?  
A. 10      B. 15      C. 20      D. 25      E. 30
13. Jo's collection contains US, Indian and British stamps. If the ratio of US to Indian stamps is 5 to 2 and the ratio of Indian to British stamps is 5 to 1, what is the ratio of US to British stamps?  
A. 5 : 1      B. 10 : 5      C. 15 : 2      D. 20 : 2      E. 25 : 2
14. A 3 by 4 rectangle is inscribed in circle. What is the circumference of the circle?  
A.  $2.5\pi$       B.  $3\pi$       C.  $5\pi$       D.  $4\pi$       E.  $10\pi$
15. Two sets of 4 consecutive positive integers have exactly one integer in common. The sum of the integers in the set with greater numbers is how much greater than the sum of the integers in the other set?  
A. 4      B. 7      C. 8      D. 12  
E. it cannot be determined from the information given.
16. A circular logo is enlarged to fit the lid of a jar. The new diameter is 50 per cent larger than the original. By what percentage has the area of the logo increased?  
A. 50      B. 80      C. 100      D. 125      E. 250



17. ABCD is a square of side 3, and E and F are the mid points of sides AB and BC respectively. What is the area of the quadrilateral EBFD?  
A. 2.25      B. 3      C. 4      D. 4.5      E. 6
18. If  $n \neq 0$ , which of the following expressions could have a value less than  $n$ ?  
Indicate ALL such expressions.  
A.  $2n$       B.  $n^2$       C.  $2 - n$
19. After being dropped a certain ball always bounces back to  $\frac{2}{5}$  of the height of its previous bounce. After the first bounce it reaches a height of 125 inches. How high (in inches) will it reach after its fourth bounce?  
A. 20      B. 15      C. 8      D. 5      E. 3.2
20.  $n$  and  $p$  are integers greater than 15  
 $n$  is the square of a number  
 $75np$  is the cube of a number.  
The smallest value for  $n + p$  is  
A. 14      B. 18      C. 20      D. 30      E. 50





21. The distance from town A to town B is five miles. C is six miles from B. Which of the following could be the distance from A to C?  
Indicate ALL such distances.  
A. 11      B. 7      C. 1
22.  $\sqrt{5}$  percent of  $5\sqrt{5} =$   
A. 0.05      B. 0.25      C. 0.5      D. 2.5      E. 25
23. If  $pqr = 1$ ,  $rst = 0$ , and  $spr = 0$ , which of the following cannot be zero?  
Indicate ALL such answers.  
A. P      B. Q      C. R      D. S      E. T
24.  $\frac{6^5 - 6^4}{5} =$   
A.  $1/5$       B.  $6/5$       C.  $6^3$       D.  $64/5$       E. 64
25. -20, -16, -12, -8 ....In the sequence above, each term after the first is 4 greater than the preceding term. Which of the following could not be a term in the sequence?  
Indicate ALL such numbers.  
A. 200      B. 440      C. 668      D. 762      E. 816      F. 902
26.  $\clubsuit n$  denotes the number obtained when n is rounded to the nearest tenth. For example  $\clubsuit 4.31 = 4.3$   
 $\clubsuit 0.089 - \spadesuit 1.135 =$   
A. 1.05      B. 1.04      C. -1.05      D. -1.0      E. -0.1
27. For how many integer values of n will the value of the expression  $4n + 7$  be an integer greater than 1 and less than 200?  
A. 48      B. 49      C. 50      D. 51      E. 52  
5A  
BC  
D43
28. In the following correctly worked addition sum, A,B,C and D represent different digits, and all the digits in the sum are different. What is the sum of A,B,C and D?  
A. 23      B. 22      C. 18      D. 16      E. 14
29. 12 litres of water are poured into an aquarium of dimensions 50cm length, 30cm breadth, and 40cm height. How high (in cm) will the water rise?  
(1 litre = 1000cm<sup>3</sup>)  
A. 6      B. 8      C. 10      D. 20      E. 40
30. Six years ago Anita was P times as old as Ben was. If Anita is now 17 years old, how old is Ben now in terms of P ?  
A.  $11/P + 6$       B.  $P/11 + 6$       C.  $17 - P/6$       D.  $17/P$       E.  $11.5P$





English:

45 Questions, 45 Marks

A. Choose the most appropriate answer A, B, C or D and a put cross in the relevant box on the answer sheet.

1. Across the country, recreational and commercial fishers have been pointing fingers for decades over which group is responsible for \_\_\_\_\_ stocks of sports fish.  
A. increasing      B. growing      C. reduce      D. dwindling
2. Long hours and unsociable shifts \_\_\_\_\_ take their toll on health, relationships and family life.  
A. must      B. are able to      C. shouldn't      D. can
3. International trade in the world's 20-odd varieties of sturgeon \_\_\_\_\_ by the United Nations since 1998, after a drastic rise in poaching.  
A. is controlled      B. is supported      C. has been regulated      D. has been promoted
4. By far the most noticeable blemishes on the surface of the Sun \_\_\_\_\_ sunspots.  
A. the      B. that are      C. in the      D. are
5. The doctor suggested that she \_\_\_\_\_ smoking.  
A. Stop      B. topping      C. stops      D. stopped
6. The students should be present \_\_\_\_\_ time.  
A. in      B. on      C. over      D. at
7. \_\_\_\_\_ you like to have a cup of coffee?  
A. Shall      B. let      C. would      D. Do
8. The infant mortality rate has risen over the past few years, \_\_\_\_\_ new report.  
A. according to      B. accordingly      C. accorded      D. published
9. You remind me \_\_\_\_\_ your mother.  
A. about      B. regarding      C. of      D. off
10. Refrigerating meats \_\_\_\_\_ the spread of bacteria.  
A. retards      B. retarding      C. to retard      D. is retarded
11. Frank used an editing program to give himself a less corpulent look in the photograph. What does corpulent mean?  
A. Bulky      B. Skinny      C. handsome      D. masculine
12. "an uncanny feeling that she was being watched" What does uncanny mean?  
A. Genuine      B. Natural      C. Mysterious      D. Clever
13. The legislation was repealed five months later. What does repeal mean?  
A. cancel      C. postpone      C. shift      D. announced
14. Ecstatic fans filled up the gallery. What does ecstatic mean?  
A. Overjoyed      B. Candid      C. Devoted      D. sincere
15. she admonished me for appearing at breakfast unshaven. What does admonish mean?  
A. praise      B. talking      C. approach      D. scolding
16. Many caves are located only after a diligent search. What does diligent mean?  
A. Unstable      B. Consistent      C. hard working      D. detailed
17. The family faced eviction and destitution. What does destitution mean?  
A. hunger      B. affluence      C. criticism      D. poverty
18. This is an attempt to intimidate the animals. Which one of the following is synonym of intimidate?  
A. Pacify      B. frighten      C. feed      D. Bluff





19. The little girl is taciturn in nature. What does taciturn mean?  
 A. Dumb                      B. hesitant                      C. reserved                      D. cheerful
20. A complete mayhem broke out. What does mayhem mean?  
 A. Excitement                      B. defeat                      C. havoc                      D. party

Complete the following passages with correct words from option:

**Passage 1:**

One day the great poet was (22)-----by Sultan Mahmood to write Shahanama in honour of the Sultan. The Sultan(23)—to pay Ferdousi a piece of gold for each verse. Ferdousin finished his writing and it was found (24)--- sixty thousand verses and the Sultan now did not (25)— to pay sixty thousand gold coins.He wanted to to pay silver coins instead of gold coins. The poet did not (26)---silver coins and returned to his village. He was truly (27)--- by this act of Sultan. However, he (28) --- anything to the Sultan. Then one day, the Sultan (29)----- that the poet (30)-----.

22. A. offer                      B. Offering                      C.Offered                      D. offers
23. A. promised                      B. Had promised                      C. Promising                      D. promises
24. A. to have                      B. having                      C. Had                      D. Has
25. A. Agreed                      B. Had agreed                      C. Agree                      D. agrees
26. A. Accepted                      B. Accept                      C. Accepts                      D. Had accepted
27. A. disheratened                      B. disheartening                      C. Had disheartened                      D. disheartens
28. A. did not said                      B. said                      C. did not say                      D. had not said
29. A. came to know                      B. knew                      C. known                      D. had known
30. A. passed out.                      B. Passed in                      C. Passed away                      D. Passed over

**Passage 2:**

Read the following questions and answer the questions below:  
 As winter descended upon Pennsylvania in 1777, General George Washington chose Valley Forge, Pennsylvania, some eighteen miles west of Philadelphia as site of the winter encampment of the Continental Army. The area was far enough away from the British in Philadelphia to discourage surprise attacks and its location between high hills and the Schuylkill River made it easily defensible.

The Continental Army, however, was in bad shape. Of the 12,000 soldiers, many lacked the supplies or clothing to survive the winter and many others were starving at this point. At Valley Forge, defense lines were built along with over 1,000 huts to provide some relief from the brutal elements. Moisture from rain and melting snow made it impossible for many soldiers to stay dry and allowed for the spread of disease. The only reliable food that the soldiers received was a mixture of flour and water known as "firecake." Occasionally, soldiers received meat and bread. Furthermore, many soldiers had inadequate supplies of clothing and were forced to endure the winter in tatters and without blankets. Many lacked shoes. Wounded soldiers often died from exposure to the elements. Unsanitary and crowded conditions led to the proliferation of diseases and sicknesses such as typhoid and pneumonia. Over 2,000 people died from such sicknesses.

On February 23, 1778, former German General Baron von Steuben arrived at Valley Forge to train the Patriots how to march in formation, fire guns quickly, use bayonets and become soldiers.





Though von Steuben spoke little English, he developed a training manual in French that would be translated on the grounds into English. Unlike many American generals, von Steuben worked directly with the soldiers, endearing him to the thousands suffering at Valley Forge. Von Steuben's presence did much to improve the morale of the army during the bitter winter and also helped them develop into a more tactical, effective military machine, capable of fighting the British.

On June 19, 1778, the Continental Army left Valley Forge in pursuit of the British who were moving north to New York.

31. Why did General Washington choose Valley Forge as the site of his army's winter encampment?
- A. It was close to a source of water.
  - B. Its location made it easy to defend.)
  - C. It was the only place where he wouldn't be attacked.
  - D. It was warmer than any other encampments.
32. Which of the following words would best describe the state of the Continental Army during the winter of 1777-1778?
- A. Determined
  - B. Weak
  - C. Powerful
  - D. Courteous
33. Which of the following was the LEAST LIKELY threat to soldiers encamped at Valley Forge?
- A. Starvation
  - B. British attack
  - C. The Cold Weather
  - D. Disease
34. How did soldiers get pneumonia?
- A. From eating old firecake.
  - B. From the crowded and unsanitary conditions.
  - C. From not getting enough meat.
  - D. From not having shoes.
35. What does the word 'proliferation' mean in the following sentence? Unsanitary and crowded conditions led to the proliferation of diseases and sicknesses such as typhoid and pneumonia.
- A. Growth and spread
  - B. Effects
  - C. Amount
  - D. Storage
36. Which of the following words best describes Pneumonia and Typhoid at Valley Forge?
- A. Shameful
  - B. Bothersome
  - C. Deadly
  - D. Tragic
37. Baron Von Steuben taught the colonists...
- A. How to understand German.
  - B. All of the above.
  - C. How to make better use of guns.
  - D. How to hide from the enemy better.
38. How was Baron Von Steuben different from American generals?
- A. He liked the British.
  - B. He never worked directly with soldiers.
  - C. He worked directly with soldiers.
  - D. He would go into battle with soldiers.
39. What was probably the most important contribution made by Baron Von Steuben?
- A. He provided the soldiers with things to laugh about.
  - B. He helped transform the Continental Army into an army that could actually fight the British.
  - C. He taught the soldiers how to use bayonets.
  - D. He taught the soldiers that their Generals did not have to speak good English.





40. What happened last?

- A. The Continental Army learned to fire guns faster and to use bayonets.
- B. The Continental Army began their pursuit of the British.
- C. Baron Von Steuben arrived.
- D. April, 1778.

Read the passage and answer the following questions

The Amazon is the world's largest tropical rainforest. It covers an area of nearly 2.8 million square miles, which is nearly the size of the continent of Australia. The Amazon Rainforest gets its life from the majestic Amazon River, the world's second largest river, which runs directly through the heart of the region. The rainforest itself is simply the drainage basin for the river and its many tributaries. The vast forest itself consists of four layers, each featuring its own ecosystems and specially adapted plants and animals.

The forest floor is the lowest region. Since only two percent of the sunlight filters through the top layers to the understory, very few plants grow here. The forest floor, however, is rich with rotting vegetation and the bodies of dead organisms, which are quickly broken down into nutrients integrated into the soil. Tree roots stay close to these available nutrients and decomposers such as millipedes and earthworms use these nutrients for food.

The understory is the layer above the forest floor. Much like the forest floor, only about 2- 5 percent of the sunlight reaches this shadowy realm. Many of the plants in the understory have large, broad leaves to collect as much sunlight as possible. The understory is so thick that there is very little air movement. As a result, plants rely on insects and animals to pollinate their flowers.

The layer above the understory is the canopy. This is where much of the action in the rainforest occurs. Many canopy leaves have specially adapted leaves which form "drip tips". Drip tips allow water to flow off the leaves which prevents mosses, fungi, and lichens from occupying the leaves. Leaves in the canopy are very dense and filter about 80 percent of the sunlight. The canopy is where the wealth of the rainforest's fruits and flowers grow. Bromeliads, cup-like plants, provide drinking pools for animals and breeding locations for tree frogs.

The emergent layer is above the canopy, and is the top layer of the rainforest. Trees in the emergent layer break through the canopy and may reach heights of 200 feet. Leaves in the emergent layer are small and covered with a special wax to hold water. Seeds are blown to other parts of the forest. Trees which rise to the emergent layer are massive. Many are braced by huge buttress roots. Trunks can be 16 feet in circumference. Many animals that survive in the emergent layer never touch the ground.

41. Based on the reading, what can you INFER about the Amazon Rainforest?

- A. A lot of plant life exists on the forest floor.
- B. More plant life exists where there is more sunlight.
- C. Most of the rainforest's fruits grow on the forest floor
- D. The canopy gets little sunlight





42. The vast forest itself consists of four layers, each featuring its own ecosystems and specially adapted plants and animals.  
 What does the word "adapted" mean in the sentence above?  
 A. Deadly      B. Suited      C. Playful      D. Hidden
43. Cup-like plants that provide drinking pools for animals are known as \_\_\_\_\_.  
 A. drip tips      B. lichens      C. bromeliads      D. fungi
44. Which layer of the rainforest is right above the forest floor?  
 A. Understory      B. Canopy      C. Emergent layer      D. Not given
45. Most of the fruits and flowers of the rainforest grow in its \_\_\_\_\_.  
 A. Emergent layer      B. Understory      C. Canopy      D. Forest floor

**ANSWERS**

**SECTION I: English Language**

|      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|
| 1.D  | 2.D  | 3A   | 4.D  | 5.A  | 6.A  | 7.C  | 8.A  | 9.C  | 10.A |
| 11.A | 12.C | 13.A | 14.A | 15.D | 16.C | 17.D | 18.B | 19.C | 20.C |
| 21.A | 22.C | 23.A | 24.A | 25.C | 26.B | 27.A | 28.C | 29.A | 30.C |
| 31.B | 32.B | 33.B | 34.B | 35.A | 36.C | 37.C | 38.C | 39.B | 40.B |
| 41.B | 42.B | 43.C | 44.A | 45.C |      |      |      |      |      |

**SECTION -II: Mathematics**

|        |      |        |      |       |        |      |        |      |      |
|--------|------|--------|------|-------|--------|------|--------|------|------|
| 1.BFG  | 2.E  | 3.C    | 4.A  | 5.C   | 6.ABDE | 7.A  | 8.C    | 9.B  | 10.D |
| 11.BC  | 12.A | 13.E   | 14.C | 15.D  | 16.A   | 17.D | 18.ABC | 19.C | 20.A |
| 21.ABC | 22.B | 23.ABC | 24.E | 25.EG | 26.D   | 27.C | 28.B   | 29.B | 30.A |

