Section 1: English — 30 questions, 20 Minutes

1. Van Gogh _____ beautiful sketches before he planted them.
(A) drawn (B) drew (C) has draw (D) drawn (E) none of this

2. The bag of seeds _____ open.
(A) slitted (B) had slit (C) had been slit (D) were slitted (E) were slit

3. We were _____ friends in that strange but magical country.
(A) among (B) upon (C) toward (D) have (E) having

4. The bus _____ arrives late during bad weather.
(A) every week (B) later (C) yesterday (D) always (E) none of them

5. My friend _____ to pick you up if you do not phone her.
(A) forgot (B) will forget (C) may forget
(D) can forget (E) shall forget

6. By this time next year, Arif _____ at the University of Manchester
(A) will begin classes (B) has begun classes (C) should begin classes
(D) will have begun classes (E) should have begun classes

7. We asked him why he _____ telephoned earlier.
(A) did not (B) has not (C) had not (D) would not (E) was not

8. After it was repaired, it _____ again.
(A) ran perfect (B) could run perfect (C) run perfect (D) ran perfectly (E) runs perfect

9. It _____ since early morning.
(A) is raining (B) rained (C) was raining
(D) has been raining (E) None of these

10. How long _____ English?
(A) are you (B) do you learn (C) have you been learning
(D) you learn (E) have you learned

11. I soon lost interest in Nadia's story as she was _____ herself.
(A) repetitions (B) repeated (C) repeatedly (D) repeats (E) repeating

12. Arif _____ drink coca cola, but he does now.
(A) could not used (B) used to (C) did not use to
(D) had not use to (E) None of them

13. Her colleagues expected _____ the job.
(A) she got (B) her to get (C) that she getting
(D) her getting (E) None of them

14. We have reduced the price _____ sell more.
(A) in order to (B) such to (C) thus to (D) so that (E) None of them

15. By the time I had reached the bottom of the mountain, I _____ extremely tired.
(A) feel (B) have been felt (C) am feeling (D) felt (E) None of them

16. Opposite of "Castigate" is -
(A) Flatten (B) Change (C) Extol (D) squander (E) None of these

17. Opposite of "Skepticism" is -
(A) Plausibility (B) Reason (C) Dull (D) Conviction

18. Opposite of "Benign" is -
(A) Harmless (B) Harmful (C) impossible (D) unimportant (E) improbable

19. The opposite of Taciturn is.
(A) Quiet (B) Reserved (C) Talkative (D) extroverted (E) Placatory

20. Antonym of "Divulge" is -
(A) conceal (B) disclose (C) reveal (D) impart (E) disgust

21. Last year Adnan Shafiq spent ____ his brother.
(A) twice as (B) twice as much as (C) twice as many as
(D) twice as more as (E) two times

22. Armin doesn't like fish and ____
(A) neither I do (B) neither do I (C) I do (D) I do (E) I do either

23. As the sun ____, Adree Islam decided to go out.
(A) has shone (B) shines (C) shine (D) was shining (E) None of these

Find the alien word

24. (A) Sage (B) Cretin (C) Imbecile (D) Dullard
25. (A) Diligent (B) Assiduous (C) Industrious (D) Indolent
26. (A) Egoist (B) Humble (C) Arrogant (D) Immodest
27. (A) Controlling (B) Totalitarian (C) Authoritarian (D) Liberal

Find the misspelt word -

28. (A) diarrhea (B) chauffeur (C) Obnoxious (D) typhoide
29. (A) mortgage (B) bouquet (C) pursue (D) privilige
30. (A) amateur (B) antagonism (C) anticipeted (D) bureaucracy

Section 3: Reading Comprehension **10 questions, 15 minutes**

Read the paragraphs below and answer questions 1 through 6:

Many great inventions are initially greeted with ridicule and disbelief. The invention of the airplane was no exception. Although many people who heard about the first powered flight on December 17, 1903 were excited and impressed, others reacted with peals of laughter. The idea of flying an aircraft was repulsive to some people. Such people called Wilbur and Orville Wright, the inventors of the first flying machine, impulsive fools. Negative reactions, however, did not stop the Wrights. Impelled by their desire to succeed, they continued their experiments in aviation.

Orville and Wilbur Wright had always had a compelling interest in aeronautics and mechanics. As young boys they earned money by making and selling kites and mechanical toys. Later, they designed a newspaper-folding machine, built a printing press, and operated a bicycle-repair shop. In 1896, when they read about the death of Otto Lilienthal, the brothers' interest in flight grew into a compulsion.

Lilienthal, a pioneer in hang-gliding, had controlled his gliders by shifting his body in the desired direction. This idea was repellent to the Wright brothers, however, and they searched for more efficient methods to control the balance of airborne vehicles. In 1900 and 1901, the Wrights tested numerous gliders and developed control techniques. The brothers' inability to obtain enough lift power for the gliders almost led them to abandon their efforts.

After further study, the Wright brothers concluded that the published tables of air pressure on curved surfaces must be wrong. They set up a wind tunnel and began a series of experiments with model wings. Because of their efforts, the old tables were repealed in time and replaced by the first reliable figures for air pressure on curved surfaces. This work, in turn, made it possible for the brothers to design a machine that would fly. In 1903 the Wrights built their first airplane, which cost less than $1,000. They even designed and built their own source of propulsion-a lightweight gasoline engine. When they started the engine on December 17, the airplane pulsated wildly before taking off. The plane managed to stay aloft for 12 seconds, however, and it flew 120 feet.

By 1905, the Wrights had perfected the first airplane that could turn, circle, and remain airborne for half an hour at a time. Others had flown in balloons and hang gliders, but the Wright brothers were the first to build a full-size machine that could fly under its own power. As the contributors of one of the most outstanding engineering achievements in history, the Wright brothers are accurately called the fathers of aviation.

1. The idea of flying an aircraft was _____ to some people.
   A. boring B. distasteful C. exciting
   D. needless E. Answer not available

2. People thought that the Wright brothers had _____.
   A. acted without thinking B. been negatively influenced C. been too cautious
   D. been mistaken E. acted in a negative way

3. The Wrights' interest in flight grew into a _____.
   A. financial empire B. plan C. need to act
   D. foolish thought E. Answer not available

4. Lilienthal's idea about controlling airborne vehicles was the Wrights.
   A. proven wrong by B. opposite to the ideas of C. disliked by
   D. accepted by E. improved by

5. The old tables were _____ and replaced by the first reliable figures for air pressure on curved surfaces.
   A. destroyed B. invalidated C. multiplied
   D. approved E. not used

6. The Wrights designed and built their own source of _____.
   A. force for moving forward B. force for turning around C. turning
   D. force for going backward E. None of the above

Read the paragraphs below and answer questions 7 through 10:

King Louis XVI and Queen Marie Antoinette ruled France from 1774 to 1789, a time when the country was fighting bankruptcy. The royal couple did not let France's insecure financial situation limit their immoderate spending, however. Even though the minister of finance repeatedly warned the king and queen against wasting money, they continued to spend great fortunes on their personal pleasure. This lavish spending greatly enraged the people of France. They felt that the royal couple bought its luxurious lifestyle at the poor people's expense.

Marie Antoinette, the beautiful but exceedingly impractical queen, seemed uncaring about her subjects' misery. While French citizens begged for lower taxes, the queen embellished her palace with extravagant works of art. She also surrounded herself with artists, writers, and musicians, who encouraged the queen to spend money even more profusely.

While the queen's favorites glutted themselves on huge feasts at the royal table, many people in France were starving. The French government taxed the citizens outrageously. These high taxes paid for the entertainments the queen and her court so enjoyed. When the minister of finance tried to stop these royal spendthrifts, the queen replaced him. The intense hatred that the people felt for Louis XVI and Marie Antoinette kept building until it led to the French Revolution. During this time of struggle and violence (1789-1799), thousands of aristocrats, as well as the king and queen themselves, lost their lives at the guillotine. Perhaps if Louis XVI and Marie Antoinette had reined in their extravagant spending, the events that rocked France would not have occurred.

7. The people surrounding the queen encouraged her to spend money _____.
   A. wisely B. abundantly C. carefully
   D. foolishly E. joyfully

8. 8. The minister of finance tried to curb these royal _____.
   A. aristocrats B. money wasters C. enemies
   D. individuals E. spenders

Section 3: Math **50 questions, 40 minutes**

1. If $x \geq 8$ and $y \leq 3$, then which of the following must be true?
   (A) $x/y=5$ (B) $x+y \leq 11$ (C) $x-y \geq 5$ (D) $xy \leq 24$ (E) none of these
2. Which of the following is true?
   (A) $0<\frac{1}{10}<0.01$ (B) $0.12<\frac{1}{8}<0.13$ (C) $0.3<\frac{1}{4}<.5$ (D) $0.3<\frac{1}{3}<0.33$ (E) None of these
3. A motorist travels x miles in y hours and z minutes. What is his average speed in miles per hour?
   (A) $x/(y+60z)$ (B) $(60y+z)/x$ (C) $60x/(y+z)$ (D) $60x/(60y+z)$ (E) none of these
4. If one number exceeds another number by 18 and the larger number is $5/2$ times the smaller, then the smaller number is
   (A) 12 (B) 14 (C) 15 (D) 16 (E) None of these

5. Asif purchased a radio from a store and sold it to Rahman and made a profit of 20%. After few months Rahman sold the same radio to Fahad and incurred a loss of 15%. If Fahad bought the Radio for Tk. 510 what was the original price of the radio?
(A) 425 (B) 450 (C) 475 (D) 500 (E) none of these

6. This year the school allotted 60% of its budget for development of the computer center and its budget this year is 15% higher than that of the last year. If the last year's budget was Tk. 1,000,000 and the allocation to the computer center has increased by 20% compared that of the last year, calculate the allocation to the computer center last year (in taka).
(A) 500,000 (B) 525,000 (C) 550,000 (D) 575,000 (E) none of these

7. if $x=(0.1)^2$, $y = \frac{1}{5}$ and $z = \sqrt{1/100}$, which of the following is true.
(A) x/y>z (B) x/z>y (C) x<y<z (D) xy>z (E) none of these

8. If 4x-7<2x+13, then which of the following must be true?
(A) x>7 (B) x>13 (C) x<10 (D) x<6 (E) None of these

9. A company pays a tax of 10% on its first Tk. 100,000 earnings and 15% on all earnings in excess of Tk. 100,000. What will be the amount of tax, in taka, if its earning Tk. 275,000?
(A) 36,250 (B) 37,500 (C) 35,000 (D) 35,250 (E) none of these

10. A rope, x feet long, is cut into two pieces such that the length of one piece is 1 foot more than twice the length of the other piece. Which of the following is the length, in feet, of the larger piece?
(A) (x+2)/2 (B) (2x+1)/2 (C) (2x+3)/3 (D) (2x+3)/3 (E) none of these

11. If y = 8x + 12 and x = z + 2, what is y in terms of z ?
(A) z + 14 (B) 8z - 4 (C) 8z + 10 (D) 8z + 16 (E) none of these

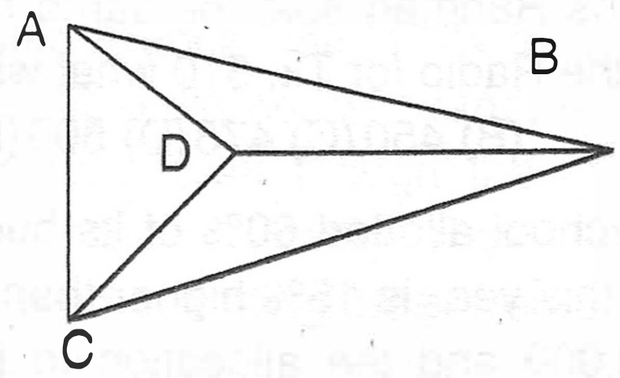
12. Which of the following fractions is the largest?
(A) 12/15 (B) 5/6 (C) 17/21 (D) 11/14 (E) 16/23

13. Which of the following is greater than 1?
(A) 0.00004/0.005 (B) 0.000006/0.0001 (C) 0.01/0.003
(D) 0.003/0.006 (E) 0.001/0.01

14. A manufacturer of TV wants to make a profit of Tk. 3,00,000 on sale of 200 TV sets. It costs Tk. 10,000 each to make the first 100 TV sets and Tk. 7,500 each to make TV sets after the first 100 sets. What should be the selling price of each TV sets in taka?
(A) 10,250 (B) 10,350 (C) 10,500 (D) 10,750 (E) None of these

15. During a particular day, x number of applicants came to IBA to submit their applications before lunch. Of them 70% were male applicants. On the same day, y number of applicants came to submit their applications after lunch and all of them were male applicants. On that particular day, the ratio of male applicants to female applicants was 4:1. Calculate y in terms of x.
(A) 0.28x (B) 0.35x (C) 0.4x (D) 0.5x (E) None of these

16. In the figure, AD=DB=CD. If <DCB=30^0 and <ABD=50^0 calculate <DCA.



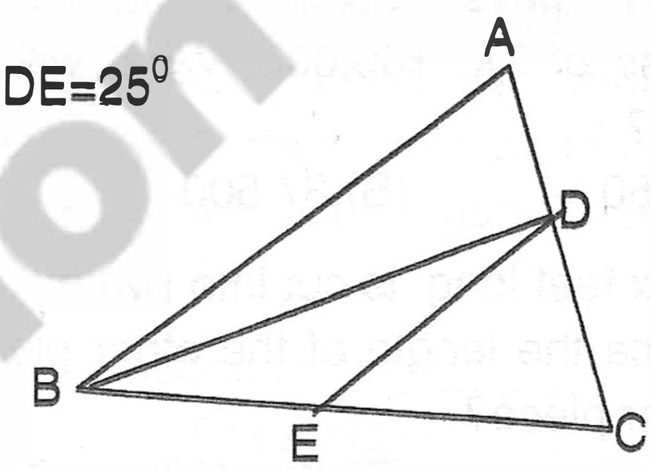
(A) 10° (B) 20°
(C) 45° (D) 60°
(E) none of these

17. If y/x = 1/5 and 2x+y= 33, then what is the value of x?
(A) 33/5 (B) 13 (C) 15 (D) 17.5 (E) none of these

18. If x, y, w and z correspond to four numbers - 3, ½, - 4 and 2 but not necessarily in the same order, what is the largest possible value of the expression $(wx/y)z^2$?
(A) 92 (B) 36 (C) 24 (D) 12 (E) none of these

19. If x and y are both odd integers, which of the following numbers must be an even integer?
(A) $x^2 + y - 1$ (B) $xy + y^2$ (C) x + y + 1 (D) xy + 2 (E) none of these

20. In the figure, DE is parallel to AB. <BAC=50^0, <BDE=25^0 and <DBE=35^0. Calculate <DCE.



(A) 45° (B) 55° (C) 60°
(D) 70° (E) none of these

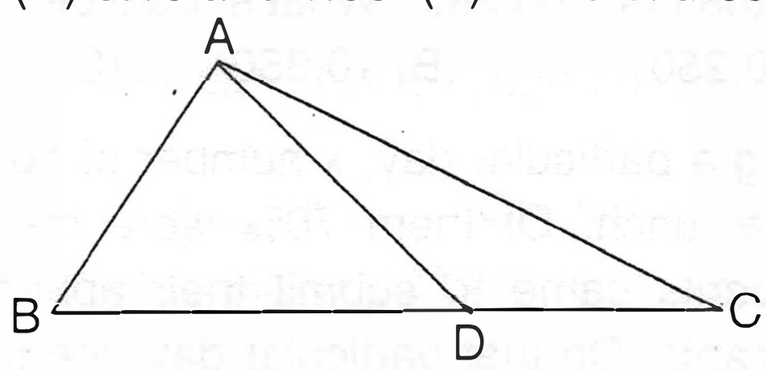
21. $10^2(10^8+10^8) / 10^4 =$
(A) 10^{14} (B) $2(10^6)$ (C) 10^8 (D) $2(10^8)$ (E) none of these

22. If x is an odd integer, for which of the following equations must y be an even integer?
(A) xy = 5 (B) x + y = 8 (C) x + 2y = 7 (D) 2x + y = 6 (E) none of these

23. If you buy x apples at a cost of (y+1.5) taka per piece and y oranges at a cost of Tk (x+1.5) per piece, and you spend higher amount of money on buying apples, then which of the following is true?
(A) x > y (B) y < x (C) x = y (D) x > y + 3 (E) can not be determined

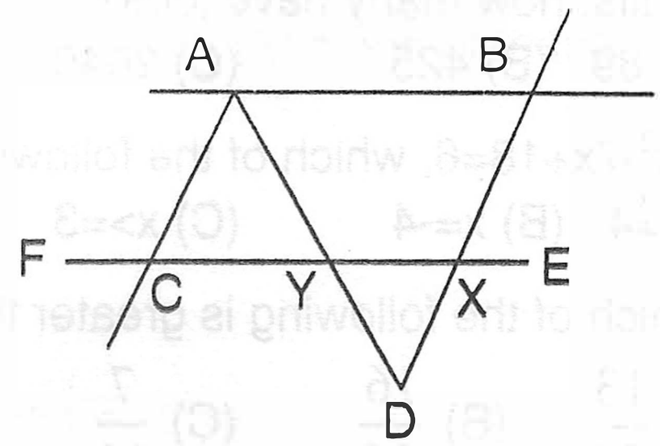
24. If 1.4 is halfway between two point x and y, what are the possible values of x and y?
(A) -1.4 and 2.4 (B) -1 and 2 (C) -0.3 and 3.1 (D) 0.15 and 1.55 (E) none of these

25. In the figure AB=AD=CD. <BAD=70^0
Which of the following must be true?
I. AB + AD > AC
II. BD > DC
III. BD< DC



(A) Only I (B) only III (C) I and II (D) I and III (E) II and III

26. In the figure, AC is parallel to BD and AB is parallel to FE. If <BXE=50^0 and AD bisects <FAB, find <ADB.



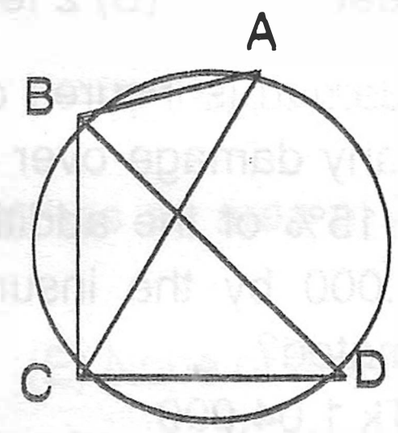
(A) 50° (B) 60° (C) 65°
(D) 70° (E) none of these

27. What is the minimum number of chocolates that must be added to the existing stock of 270 chocolates so that the total stock can equally be divided among 6, 8 or 12 persons?
(A) 12 (B) 16 (C) 18 (D) 20 (E) none of these

28. The cost of a pen is 20% more than that of a book and the cost of a CD is 3/4 as much as the cost of the pen. If the cost of the pen is Tk. 90 more than that of the CD, what is the cost of the book in taka?
(A) 120 (B) 126 (C) 192 (D)200 (E) none of these

29. If x is less than y, which of the following numbers must be greater than x and less than y?
(I) (x+y)/2 (II) xy/2 (III) $x^2 - y^2$
(A) only I (B) only II (C) I and III (D) I and II (E) none of these

30. BD is the diameter of the circle. <CAB=40^0. Calculate <CBD



(A) 45° (B) 50° (C) 60°
(D) 70° (E) none of these

31. Jubair has Tk. 1,80,000 in his bank account. He made the following transactions: checks were written for Tk 20,000, Tk 13,000, Tk 40,000 and Tk 18,000. Deposits of Tk 60,000 and Tk 1,03,000 were made in the account. Interest amount added in the balance was Tk 30,000 and service fees charged by the bank was Tk 15,000. What is the final balance to the account?
(A) Tk 45,000 (B) Tk 2,85,000 (C) Tk 2, 15,000
(D) Tk 1,85,000 (E) None of these

32. Alam bought a roll of crepe paper streamers 35 feet long and 4 feet wide to make banners for a party. If each banner is $2^1/_2$ feet long and 2 feet wide, what is the maximum number of banners that he can make from this roll?
(A) 70 (B) 17.5 (C) 14 (D) 28 (E) None of these

33. Find the volume of a triangular solid cylinder with the following dimensions: 4 feet base, 3 feet height of triangle, and 10 feet height of the cylinder.
(A) 120cft (B) 60cft (C) 80cft (D) 65cft (E) None of these

34. At a photocopy center, the first 10 copies cost .x Taka each. Each of the next 50 copies costs 2 Taka less per copy. From the 61st copy, the cost is 1 Taka per copy. In terms of .x how much does it cost in Taka to have 200 copies made?
(A) 10x+240 (B) 50x-10 (C) 50(x-5) (D) 60x-110 *(E)* None of these

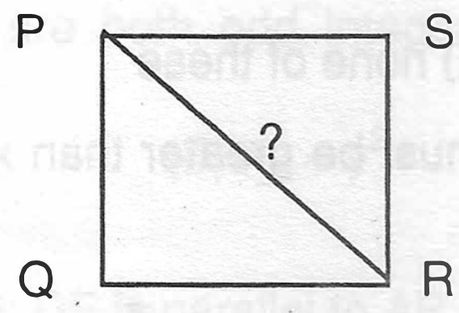
35. In Rajshahi 5 adults are unemployed for every 120 adults who have jobs. Out of 2125 adults, how many have jobs?
(A) 89 (B) 425 (C) 2040 (D) 1896 (E) None of these

36. If x^2-7x+18=6, which of the following must be false?
(A) x=4 (B) x=-4 (C) x>=3 (D) x >0 (E) None of these

37. Which of the following is greater than 2/3?
(A) $\frac{13}{21}$ (B) $\frac{16}{25}$ (C) $\frac{7}{11}$ (D) $\frac{5}{7}$ (E) None of these

38. The average of 5 numbers is 40. If 2 more numbers, with an average of 21, are added to these numbers, what will be the average of the combined 7 numbers?
(A) 8.7 (B) 30.1 (C) 30.3 (D) 34.6 (E) None of these

39. If a square region PQRS has an area of 2 square feet, what is the length of its diagonal (PR)?



(A) 4 feet (B) 2 feet (C) 8 feet (D) $2\sqrt{2}$ feet (E) None of these

40. Mr. Jaman is insured completely for Tk. 1,50,000 against damages to his machinery. For any damage over Tk 1,50,000, the insurance company will pay Tk 1,50,000 plus only 15% of the additional damage. For a recent accident, Mr. Jaman was paid Tk 1,56,000 by the insurance company. What was the total amount of the damage estimated?
(A) Tk 1,04,000 (B) Tk 90,000 (C) Tk 40,000
(D) Tk 80,000 (E) None of these

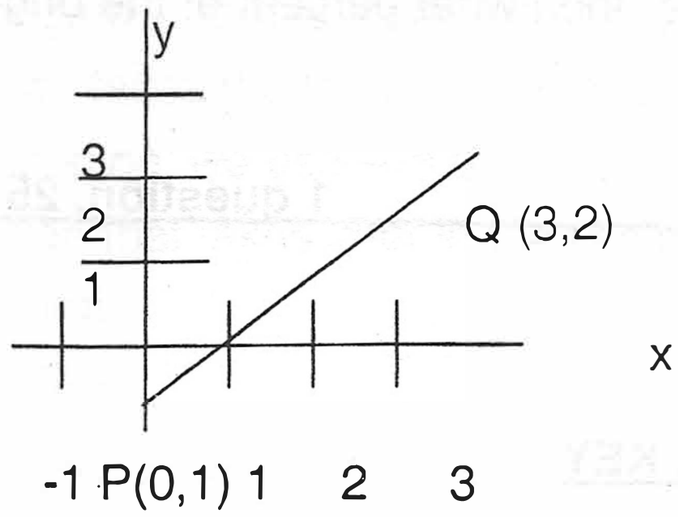
41. Starting from Town A, Mr. Ahsan drove straight North for 4 kms, then he turned right and drove straight East for 3 kms and stopped at Town B. What is the straight-line distance from Town A to Town B?
(A) $\sqrt{7}$ kms (B) 5kms (C) 8 kms (U)$2\sqrt{3}$ kms (E) None of these

42. Of the 45 families in a locality, 25 families have working mothers and 10 families have retried individuals as members to look after the children at home. Of the families, 8 have both working mothers and retired individuals as members. How many of the families have working mothers but no retired individuals as members?
(A) 0 (B) 2 (C) 18 (D) 17 (E) None of these

43. If a family was randomly picked from the families in the previous question, what is the probability (approximately) of that family having working mothers as members?
(A) 56% (B) 70% (C) 80% (D) 86% (E) None of these

44. In the figure below, the middle point on segment PQ is:

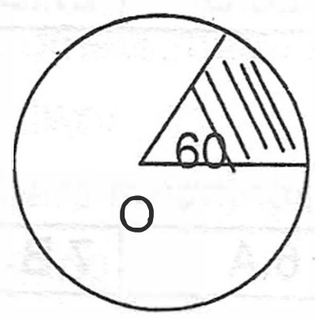
(A) (1.5,1.5) (B) (1.5, 0.5) (C) (1.5,1) (D) (2,1) (E) None of these



45. In the figure above (from the previous question), the length of PQ is:

(A) $\sqrt{2}$ (B) $3\sqrt{2}$ (Q2$\sqrt{2}$ (D)2$\sqrt{3}$ (E) None of these

46. In the circle below, if O is the center of the circle, what fraction of the circle is shaded?



(A) $\frac{1}{12^{th}}$ (B) $\frac{1}{10^{th}}$ (C) $\frac{1}{8^{th}}$ (D) $\frac{1}{6^{th}}$ (E) None of these

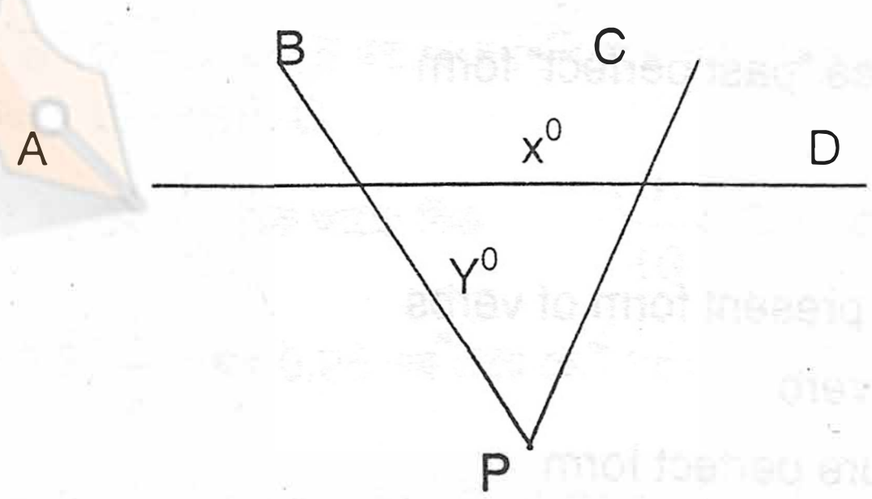
47. If the shaded region in the circle above (previous question) has an area of ∏, then the diameter of the circle is:

(A) $2\sqrt{3}$ (B) $2\sqrt{6}$ (C) $\sqrt{3}$ (D) $\sqrt{6}$ (E) None of these

48. The reciprocal of *pln* is *nlp* and vice versa. Which of the following is the reciprocal of $\frac{2}{\sqrt{18}}$

(A) $\frac{\sqrt{2}}{3}$ (B) $\frac{2}{\sqrt{3}}$ (C) $\frac{12}{9}$ (D) $\frac{4\sqrt{3}}{3}$ (E) None of these

49. In the figure below, if CP=BP and x =120^0, then y=?



(A) 30^0 (B) 45^0 (C) 60^0 (D)75^0 (E) None of these

50. A merchant was selling an item at a certain price, then marked it down 20% for a spring sale. During the summer, he marked the item down another 20% from its spring price. If the item is sold at the summer price, then what percent of the original price did it sell for?

Section 4: Essay writing **1 question, 25 minutes**

Write an essay on the following: "Generosity".

ANSWER KEY

English grammar:

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

Reading comprehension:

1.B	2.A	3.C	4.C	5.B	6.A	7.B	8.B		

Math:

1. C		2. B		3. D		4. A		5.D		6	D	7	E	8	C	9	A	10	B
11	E	12	B	13	C	14	A	15	D	16	A	17	C	18	E	19	B	20	D
21	B	22	D	23	A	24	C	25	C	26	C	27	C	28	E	29	A	30	B
31	B	32	D	33	B	34	E	35	C	36	B	37	D	38	D	39	B	40	E
41	B	42	D	43	A	44	B	45	B	46	D	47	B	48	E	49	C	50	C

ANSWER EXPLANATION

English

1. **(E)** the verb that takes place before takes "past perfect" form
2. **(A)** slitted means to burst open
3. **(A)** "among" means to be with
4. **(D)** recurring events are describes with present form of verbs
5. **(B)** will forget is used for future form of verb
6. **(D)** By this time next year – takes a future perfect form
7. **(C)** earlier actions take present perfect form
8. **(D)** past context verbs take past form
9. **(D)** since recent time – takes present perfect form