

Time -1:15 hours

Practice test-2

Class –Seven

Total marks--(C.Q-20)+(M.C.Q-30)

Subject – Mathematics

[Answer all the questions. Write the answer of MCQ on exam sheet]

Creative questions

1. $a^2-5a-1=0$, $p = x + \frac{1}{x}$
 - a. find the value of $(a - \frac{1}{a})^2$. 2
 - b. prove that, $a^4-27a^2+1=0$. 4
 - c. if $p=3$, then find the value of $(x^2 + \frac{1}{x^2})^2$. 4
2. Three equal size glasses are filled with sweet drink. In that sweet drink the ratio of water and syrup in the first glass is 3:1, in the second glass is 5:3 and in the third glass is 9:7.
 - a. express the ratio of first and third glasses as successive ratio. 2
 - b. determine the amount of water and syrup in first and third glasses. 4
 - c. if the sweet drink of three glasses are mixed together , then find the ratio of water and syrup in the mixture. 4

Multiple choice questions

1. If a, b and c are continued proportional, then –
 - a. $b^2=ac$
 - b. $a^2=bc$
 - c. $c^2= ab$
 - d. $c^3=ab$
- Answer questions number (2-4) based on the following information.
sony, mony and jony have total Tk 96. The ratio of their money is 1:2:3.
2. How much Tk does sony have?
 - a. 15
 - b. 16
 - c. 20
 - d. 27
 3. How much Tk does mony have?
 - a. 27
 - b. 28
 - c. 30
 - d. 32
 4. How much Tk jony have more than mony?
 - a. 16
 - b. 20
 - c. 21
 - d. 24
 5. If $a= -1$ and $b= -2$, then find the value of $2(a^2+b^2)$.
 - a. 10
 - b. 8
 - c. 7
 - d. -6
 6. If $a+b=8$ and $a-b=4$, then – (i) the square of a-b is 16 (ii) $(a+b)^2= 64$ (iii) $2(a^2+b^2)= 80$
Which of the following is correct?
 - a. i and ii
 - b. i and iii
 - c. ii and iii
 - d. i, ii and iii
 7. If $a^2+b^2=9$ and $ab=3$, then - (i) $(a-b)^2=3$ (ii) $(a-b)^2= 15$ (iii) $4ab= 12$
Which of the following is correct?
 - a. i and ii
 - b. i and iii
 - c. ii and iii
 - d. i, ii and iii
 8. If $A:B= 4:5$ and $B:C= 7:9$, what is the value of $A:B:C$?
 - a. 28:35:59
 - b. 28:53:45
 - c. 4:5:9
 - d. 28:35:45
 9. which one is the fourth proportional of 3,6,7?
 - a. 14
 - b. 15
 - c. 20
 - d. 21
 10. In continued proportion, the multiplication of first and third quantities and the square of second quantity are-
 - a. equal
 - b. less than
 - c. greater than
 - d. cubic
 11. Which one is the ratio of 2 years 6 months and 1 year?
 - a. 10:4
 - b. 4:10
 - c. 26:1
 - d. 1:26
 12. Find the successive ratio of A:B and B:C.
 - a. A:B:B:C
 - b. A:B and B:C
 - c. B:A:C
 - d. A:B:C
 13. How many quantities form a proportion?
 - a. 1
 - b. 3
 - c. 4
 - d. 5
 14. Tk 1500 is divided in the ratio of 3:2. If the 1st quantity is Tk 900, how much Tk is the 2nd quantity?
 - a. 1000
 - b. 800
 - c. 600
 - d. 500

15. $9:18::25:\square$, then $\square =$ what?

- a. 50 b. 75 c. 100 d. 125

16. If a transversal cuts two parallel straight lines, then how much degree is the sum of two interior angles on the same side of the transversal?

- a. 60 b. 90 c. 180 d. 360

17. If a transversal cuts two parallel straight lines, then how many angles are formed?

- a. 4 b. 5 c. 7 d. 8

18. If $a+b=3$ and $ab=2$,then $a^2-ab+b^2=$ what?

- a. 3 b. 6 c. 9 d. 12

19. Which of the following is the required number of quantities in the continued proportion?

- a. 1 b. 3 c. 4 d. 5

20. Which of the following is the symbol of parallel?

- a. = b. \cong c. \parallel d. \perp

21. which of the following is the property of corresponding angles?

- a. 80^0 b. different angular point c. are on opposite sides of the transversal d. lie between two lines

22. which of the following is the property of interior angles?

- a. 80^0 b. same angular point c. are on opposite sides of the transversal d. lie outside the two lines

23. If in $\triangle ABC$, $\angle A + \angle B = 90^0$, then $\angle C=$ how much degree?

- a. 90^0 b. 150^0 c. 180^0 d. 300^0

24. what is mean by \cong ?

- a. equal b. perpendicular c. parallel d. congruent

25. which of the following formula / corollary is correct?

a. $a^2+b^2=(a+b)^2-2ab$

b. $a^2+b^2=(a-b)^2-2ab$

c. $2(a^2+b^2)=(a-b)^2-(a-b)^2$

d. $a^2+b^2+c^2+2ab+2bc+2ca=(a-b-c)^2$

26. which of the following formula / corollary is correct?

a. $a^2+b^2=(a+b)^2+2ab$

b. $a^2+b^2=(a-b)^2+2ab$

c. $2(a^2-b^2)=(a-b)^2+(a-b)^2$

d. $a^2-b^2+c^2+2ab+2bc+2ca=(a+b+c)^2$

27. which of the following formula / corollary is correct?

a. $(a+b)^2=(a-b)^2+2ab$

b. $(a-b)^2=(a-b)^2-4ab$

c. $4ab=(a+b)^2+(a-b)^2$

d. $(x+a)(x+b)=x^2+(a+b)x+ab$

28. The sum of the square of two quantities= ?

a. sum of two quantities \div difference of two quantities

b. square of 1st quantity + 2 \times 1st quantity \times 2nd quantity - square of 2nd quantity

c. (1st quantity + 2nd quantity)² - 2 \times 1st quantity \times 2nd quantity

d. sum of two quantities \times difference of two quantities

29. which of the following is the square of $-x-y$?

- a. $x^2+2xy+y^2$ b. $x^2-2xy+y^2$ c. $-x^2+2xy-y^2$ d. $-x^2-y^2$

30. If $a+b+c=15$, $a^2+b^2+c^2=83$, then $ab+bc+ca=$?

- a. 71 b. 72 c. 73 d. 80