

Cantonment Public School & College (English Version)

BUSMS, Parbatipur, Dinajpur.

STD-VIII, Chapter 1: Patterns(MCQ)

01. How many prime numbers are there from 25 to 50?
a) 4
b) 5
c) 6
✓ d) 7
02. Which is term 31 of the expression $(3A+1)$?
a) 8th
b) 9th
c) 10th ✓
d) 11th
03. Which is the magic number of 4 order magic square?
a) 81
b) 65
c) 55
d) 34 ✓
04. What is the sum of first A consecutive odd numbers?
a) A
b) A^2 ✓
c) $2A-1$
d) $2A+1$
05. What is the 7th term of the list 1, 4, 8, 13,?
a) 22
b) 28
c) 34 ✓
d) 40
06. 0, 1, 1, 2, 3, 5, 8, what is the next number of the pattern?
a) 9
b) 10
c) 11
d) 13 ✓
07. $1+2+3+4+5+\dots+20=?$
a) 210 ✓
b) 200
c) 63
d) 21
08. Find the next number of the following list? -4, -1, 4, 11,
a) 31
b) 35
c) 39
d) 18 ✓
09. Find the next number of the following list? 3, 9, , 27,
a) 81 ✓
b) 18
c) 32
d) 33
10. Which one is the expression of the following pattern?
0,3,8,15,24?
a) $2n^2-1$
b) $2n^2+1$
c) n^2-1 ✓
d) n^2+1
11. Which one of the following is the Fibonacci number's pattern?
a) 3, 6, 9, 12, 15,
b) 2, 4, 8, 16 32,
c) 2, 3, 5, 8, ✓
d) 2, 4, 6, 8, 10,
12. Which one of the following is the magic number of magic square of order 3?
a) 12
b) 15 ✓
c) 16
d) 34
13. To form a 3-order magic square , which number will be set in the small square in the centre?
a) 1
b) 3
c) 5
✓ d) 7
14. How many prime number of 1 to 20?
a) 7
b) 8 ✓
c) 9
d) 10
15. Which one of the following pattern is fibonacci?
a) 1, 2, 3, 4, 5, 7,
b) 4, 6, 8, 9, 12, 15
c) 0, 1, 1, 2, 3, 5, 8, ✓
d) 1 5, 9, 13, 19,
16. Which one of the following algebraic expression pattern 0, 3, 8, 15, 24,
a) $2a+1$
b) a^2-1 ✓
c) a^2+1
d) $2a^2-1$
17. What is the next number of the series 9, 4, -1, -6,?
a) -16
b) -15
c) -11 ✓
d) -7
18. How many numbers can be expressed as a sum of two squares between 1 and 100?
a) 30
b) 31
c) 34 ✓
d) 32

19. What type of number pattern 0,1,1,2,3,5,8,13 are?
 a) Consecutive b) Fibonacci✓
 c) Odd d) Geometric
20. What is 10th term of the pattern 2,5,8,11,14?
 a) 31 b) 30
 c) 29✓ d) 28
21. If 100th term of $4n+3$ is 403, then which one is 50th term?
 a) 201.5 b) 203✓
 c) 303 d) 806
22. Which expression is used for 7, 11, 15, 19..... pattern?
 a) $(5x+2)$ b) $(4x+3)$
 c) $(8x-1)$ d) $(4x-1)$
23. Which one is the pattern of odd numbers?
 a) $2a$ b) $2a+2$
 c) $2a-1$ ✓ d) $3a$
24. Which one of the following is the symbolic expression of 3, 10, 17,45?
 a) $7a-4$ ✓ b) $5a-2$
 c) $2a+1$ d) $a+2$
25. If the algebraic expression of a pattern is $3x+2$, which of the following is the 2nd term?
 a) 7 b) 8✓
 c) 11 d) 12
26. Which one is the smallest prime number?
 a) 3 b) 2✓
 c) 1 d) -1
27. How many prime numbers are there is 1, 2, 3, 4, 5, 6, 7, 8?
 a) 3 b) 4✓
 c) 4 d) 8
28. What is the magic number for the magic square of order 5?
 a) 34 b) 35
 c) 60 d) 65✓
29. What is the sum of the first 20 odd natural numbers?
 a) 100 b) 210
 c) 361 d) 400✓
30. Which one of the following pairs is perfect by square numbers?
 a) $\sqrt{4}, \sqrt{16}$ b) 4,16✓
 c) 25, 52 d) 2, 4
31. Which one of the following the formula for determining the sum of consecutive numbers.
 a) $\frac{(1^{st} \text{ term} + \text{last term}) \times \text{number of terms}}{2}$ ✓
 b) $\frac{(\text{last term} + 2^{nd} \text{ term}) \times \text{number of terms}}{2}$
 c) $\frac{\text{last term} \times \text{number of terms}}{2}$
 d) $(1^{st} \text{ term} \times \text{last term}) \times \text{number of term}$
32. What is the value of the blank cell?
- | | | |
|----|----|----|
| 12 | 5 | 10 |
| 7 | 9 | 11 |
| 8 | 13 | |
- a) 2 b) 3
 c) 4 d) 6✓
33. Which number can be determined with the help of sieve of Eratosthenes?
 a) Prime✓ b) Compound
 c) Even d) Odd
34. Which of the following number can be expressed as the sum of two squares in more than one ways?
 a) 5 b) 10
 c) 25 d) 65✓
35. $(a^2 - 1)$ is an algebraic expression-
 i. 1st term is zero
 ii. sum of the 1st three terms is 11
 iii. each term is even number
 Which one is correct?
 a) i and ii✓ b) i and iii
 c) ii and iii d) i, ii and iii

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STD-VIII, Chapter 2 : Profits(MCQ)

01. What percent is 30 of 50?
a) 30% b) 50%
c) 55% d) 60%✓
02. Observe the following informations :
i. The 100% means the whole part.
ii. The conversion of $\frac{3}{5}$ into percent is 60%
iii. It is used to write 15% for 15 percent.
Which one of the following is correct in view of the above informations?
a) i and ii b) ii and iii
c) i and iii✓ d) i, ii and iii
Answer the questions (3-4) in view of the following informations:
Mr. Rahim deposited Tk. 15000 at the profit rate 8% per annum,
03. How much Taka would be yearly profit?
a) 1500 b) 1200✓
c) 1000 d) 800
04. How much Taka would become with profit after 6 years?
a) 7200✓ a) 16200
c) 21200 d) 22200
05. If bananas is bought 3 pieces per Tk. 1 and the bananas are sold at 2 pieces per Tk. 1. What will be the percentage of profit or loss?
a) Profit $33\frac{1}{3}\%$ b) Loss $33\frac{1}{3}\%$
c) Profit 50%✓ d) Loss 50%
06. What is simple profit of Tk. 1400 in 3 years at the rate of simple profit of 7% per annum?
a) Tk. 294✓ b) tk. 420
c) Tk. 2100 d) Tk. 4200
07. What is the years at principal Tk. 1200 and the simple profit Tk. 480 at the rate of simple profit 10% per annum?
a) 2 years b) 4 years✓
c) 6 years d) 8 years
08. What is the simple profit of Tk. 700 in 4 years at the rate of profit of 10% per annum?
a) Tk. 350 b) Tk. 280✓
c) Tk. 210 d) Tk. 150
09. Which one of the following is 150% of Tk. 50?
a) 750 b) 75✓
c) 100 d) 150
10. Profit =?
a. $principal \times rate\ of\ profit \times time$ ✓
b) $Principal \times rate\ of\ profit$
c) $\frac{principal \times time}{rat\ of\ profit}$
d) $\frac{principal \times time}{time}$
11. A shirt is sold Tk. 850 at the loss of 15%. Which one of the following is the cost price of the shirt?
a) Tk. 800 b) Tk. 977.5✓
c) Tk. 877.5 d) Tk. 1250
12. If the ratio of cost price and selling price is 5:6, then what is the profit in presentage?
a) 10 b) 20✓
c) 25 d) 30
13. The selling price of some mangoes of a mango seller is Tk. 1600 and the profit is Tk. 160. How much part is the profit of the cost price?
a) $\frac{9}{10}$ b) $\frac{9}{100}$
c) $\frac{100}{9}$ ✓ d) $\frac{1}{9}$
14. What is the profit in taka of Tk. 5000 at the rate of 10 taka per annum in 2 years.
a) 6050 b) 6000
c) 1050 d) 1000✓
15. What is the profit of Tk. 750 in 4 years at 5% of profit?
a) 140 b) 150✓

- c) 160 d) 170
16. Cost price of a thing is Tk. 500 at 8% rate of profit, what will be the selling price?
a) 108 b) 508
c) 540✓ d) 608
17. If Tk. 5000 is deposit in a bank at the rate of simple profit 10%, what will be the profit-principal at the end of 2nd year?
a) 1000 b) 1050
c) 6000✓ d) 6050
18. The commodity is bought at 60 Tk. and is sold at 57 Tk. What will be the percentage of loss?
a) 4% b) 5%✓
c) 6% d) 7%
19. Due to increase in the rate of profit 2%, income is increase by Tk. 128 in 4 years. What is principal?
a) 1400 b) 1600✓
c) 1800 d) 2200
20. If a thing is bought at Tk. 600 and sold it at Tk. 552, what will be happened?
a) Profit 8% b) Loss 8%✓
c) Profit Tk. 48 d) Loss Tk. 52
21. The extra money which is got from the bank on the basis of deposited money for a certain period of time is called-
a) profit of rate b) profit- principal
c) principal d) profit✓
22. In the field of simple profit-
i. $A=P+I$
ii. $P=Inr$
iii. $A=P(1+nr)$
Which one of the following is correct?
a) i and ii b) i and iii
c) ii and iii d) i, ii and iii✓
23. If. Tk. P becomes double as profit-principal in 8 years then-
i. profit-principal is Tk. 2P
ii. Profit is Tk. P
iii. the rate of profit is 12.5% per annum
Which one is correct?
a) i and ii b) i and iii
- c) ii and iii d) i, ii and iii✓
24. Rules of profit principal and loss-profit-
i. profit = profit-principal-principal
ii. profit= principal \times time
iii. loss and profit depend on cost price
Which one of the following is correct?
a) i and ii b) i and iii✓
c) ii and iii d) i, ii and iii
25. What is the formulae for compound principal?
a) $\frac{C}{P} = (1 - r)^n$ b) $\frac{C}{P} = (1 + r)^n$ ✓
c) $\frac{1}{P} = (1 - r)^n$ d) $\frac{C}{P} = (1 - r)^n$
26. Which is the formula of compound profit?
a) $P(1 + r)^n - p$ ✓ b) $P(1 + r)^n - pnl$
c) $P(1 + r)^n \times p$ d) $P(1 + r)^n + p$
27. What is the compound principal of Tk. 3,000 in 2 years at the rate of profit 5%.
a) Tk. 3307.50✓ b) Tk. 4500.00
c) Tk. 6750.00 d) Tk. 11025.00
28. The population of your village is 10,000. If growth rate of population is 20 per thousand, what will be the number of increase of population after 2 years?
a) 204 b) 404
c) 10404 d) 20400
29. If principal is p and the percent of profit per annum is r, which of the following is the formula of compound principal at the end of 4 years?
a) $P(1 + r^2)$ b) $P(1 + r)$
c) $P(1 + 4r)$ d) $P(1 + r)^4$ ✓
30. What is the compound profit of Tk. 2000 in 2 years at the rate profit 10% per annum?
a) 400 b) 420
c) 2400 d) 2420✓
31. In the case of compound profit-
i. Principal = $P(1 + r)^n$
ii. Profit = $P(1 + r)^n - P$
iii. profit = C-P

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii✓

32. Counting profit-

- i. profit=principal×time×rate of profit
ii. profit=profit-principal-principal
iii. compound profit = compound principal-principal

In light of the above information,

Which one is correct?

- a) i and ii b) ii and iii
c) i and iii d) i, ii and iii✓

33. In the field of profit related problem-

i. $A=P(1+nr)$

ii. $n = \frac{I}{Pr}$

iii. $C=P(1+r)^n$

Which one of the following is correct?

- a) i & ii b) ii & iii
c) i & iii d) i, ii & iii✓

34. At the rate of Profit 5% per, for Tk. 10,000 in 2 years-

- i. Profit is Tk. 1000
ii. Profit principal is Tk. 11,000
iii. Compound principal is Tk. 12,000

Which one of the following correct?

- a) i and ii✓ b) i and iii
c) ii and iii d) i, ii and iii

Answer the questions no. 35 & 36 with the help of the given informations.

Mr. Karim deposited Tk. 2,000 in a bank in 2 years at a rate of 10% profit.

35. Which is the simple profit?

- a) Tk. 400✓ b) Tk. 430
c) Tk. 450 d) Tk. 460

36. Which is the difference of compound profit and simple profit?

- a) Tk.1600 b) Tk. 400
c) Tk. 420 d) Tk. 2020

Present population of a city is 80 lac. the growth rate of population of that city is 30 per thousand.

Answer the question no. 37 & 38 in respect of the above information:

37. What is the growth rate of population?

- a) 30% b) 5%
c) 3% ✓ d) 2%

38. What will be the population of the city after 3 years?

- a) 8741816✓ b) 8441816
c) 7441816 d) 32,78,181

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STD-VIII, Chapter 3: Measurement(MCQ)

Answer to the questions No. 1 and 2 according to the following informations:

Length of the floor of a rectangular room is 5 metres more than its breadth and perimeter of the floor is 70 metres.

1. What is the breadth of the floor of the room in metres?

- a) 15 ✓ b) 20
c) 30 d) 35

2. What is area of the floor of the room in sq. metres?

- a) 150 b) 300 ✓
c) 350 d) 500

3. If the length of one side of a square is 'a' unit, what is the length of one diagonal of it?

- a) $\sqrt{2} a$ ✓ b) $4a$ c) $\sqrt{3} a$ d) a^2

4. If the sides of a square increased by three times, what is the increased of its area?

- a) 9 times ✓ b) 3times
c) 12 times d) $\frac{1}{9}$ times

5. What is the formula to determine the area of a trapezium?

- (a) The product of the two parallel sides \times height
(b) The sum of the two parallel sides \times height
(c) The average of the two parallel sides \times height ✓
(d) The sum of the product of two parallel sides & height

6. The edge of a cube is 3.5 cm. What is the area of the whole surface of the cube?

- (a) 60 sq. cm (b) 65 sq. cm

- (c) 70 sq. cm (d) 73.5 sq. cm ✓

7. If parallel two sides a unit and b half and its perpendicular distance h unit of a trapezium then which one is the area of a trapezium in sq unit?

- (a) abh (b) $(a + b + h)$
(c) $\frac{1}{2} (a + b) h$ ✓ (d) $\sqrt{a^2 + b^2 + h^2}$

8. Length and breadth of your Mathematics book is 25 cm and 19 cm respectively, What is the area of the book in square cm?

- (a) 475 ✓ (b) 457 (c) 18 (d) 44

9. Which use of the following is the perimeter of a square?.

- a) $4 \times$ one side ✓
(b) $4 \times$ one diagonal
(c) $3 \times$ one side
(d) $2(\text{length} + \text{breadth})$

10. How many sq. meter is the area of total surface of a cube with side $\sqrt{5}$ meter?

- (a) 5 (b) 20 (c) 30 ✓ (d) 150

11. The length is 4 meters breadth is 3 meters and height is 2 meters of a box. What is the volume of it?

- (a) 28 (b) 24 ✓ (c) 13 (d) 9

12. The lengths of two diagonals of a rhombus are 8 cm and 9 cm. What is the area of rhombus in sq. cm ?

- (a) 144 (b) 72 (c) 36 ✓ (d) 34

13. Two parallel sides of a trapezium are 8 cm and 11 cm. Its height is 6 cm. What is the area of at the trapezium?

(a) 114 (b) 88 (c) 57 ✓ (d) 25

14. If the side of a cube is $\sqrt{2}$ cm.

What is the area of the whole faces of the cube?

- a) 2 sq. cm (b) $2\sqrt{2}$ sq. cm
(c) $6\sqrt{2}$ sq. cm ✓ (d) 12 sq. cm

15. What is the sum of four angles of a Trapezium?

- (a) 90° (b) 180° (c) 270° (d) 360° ✓

16. If length of a rectangular, solid is a unit, breadth is b unit and height is c unit, which is the area of the whole face of the solid sq. unit ?

- (a) abc (b) $2(ab + bc + ca)$ ✓
(c) $(ab + bc + ca)$ (d) $a + b + c$

17. Observe the following information.

- i) Area of parallelogram = base \times height
ii) Area of triangle = $\frac{1}{2} \times$ base \times height
iii) Area of trapezium = base \times height
(a) i and ii ✓ (b) i and iii
(c) ii and iii (d) i, ii and iii

18. The length of a side of a square is 3 cm

- i) the perimeter is 12 cm
ii) area is 9 sq. cm
iii) diagonal is 6 cm
Which one is correct?

- (a) i and ii ✓ (b) i and iii
(c) ii and iii (d) i, ii and iii

19. How many surfaces are there in a rectangular solid?

- (a) 24 (b) 3 (c) 12 (d) $6\sqrt{2}$ ✓

20. If the side of cube is x; what is the area of full surface of the cube?

(a) πx (b) $6x^2$ ✓ (c) x^3 (d) $\sqrt{2} x$

21. A cube whose edge is 3cm, what is the diagonal of it?

- (a) $2\sqrt{3}$ (b) $3\sqrt{2}$
(c) $3\sqrt{3}$ ✓ (d) $6\sqrt{3}$

22. What is the volume of a cube of edge of 1cm each in cubic cm?

- (a) 2 (b) 1 ✓ (c) 11 (d) 6

23. If the radius of a circle is 'r' then what is its circumference?

- (a) $2\pi r$ ✓ (b) πr
(c) $2\pi r^2$ (d) πr^2

Answer the questions No. 1 and 2 according to the following information:

The area of rectangle field is 144 sq.cm, the width of the rectangular field 9cm and the area of rectangular field is equal to the area of 81cm square field.

24. What is the length of rectangular field?

- (a) 20 (b) 24
(c) 16 ✓ (d) 12

25. What is the perimeter of rectangular?

- (a) 25 (b) 50 ✓ (c) 23 (d) 16 9

26. What is the perimeter of square field.

- (a) 12 ✓ (b) 24 (c) 16 (d) 96

27. What is the perimeter of square field.

- (a) 48 ✓ (b) 38 (c) 16 (d) 96

28. If the side of a square is double, how much times will the area of the square be increased?

- (a) 8 (b) 4 ✓ (c) 3 (d) 6

29. The length of three sides of a triangle are 7cm, 9cm and 8cm. what is its area in sq.cm?

- (a) 28.63 (b) 26.83 ✓ (c) 22.23 (d) 21.22

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STD-VIII, Chapter 4: Algebraic Formulae & Applications (MCQ)

01. Which one is the square of 52?
a. 2704 ✓ b. 2504
c. 2496 d. 2284
02. Which one of the following is the square of $(x-3y)$?
a. $x^2+6xy+9y^2$ b. $x^2-6xy+9y^2$ ✓
c. $x^2+6xy-9y^2$ d. $x^2-6xy-9y^2$
03. Which one is square of $x+2y$?
a. $x^2+2xy+y^2$ b. $x^2+4xy+4y^2$ ✓
c. $x^2+2xy+4y^2$ d. $x^2+xy+9y^2$
04. Which is the difference of the square of $(x+6)$ $(x+4)$?
a) x^2-6^2 b. x^2-4^2
c. $(x)^2-(10)^2$ d. $(x+5)^2-(1)^2$ ✓
05. If $(x+4)(x+2)$ is expressed as the difference of two squares, which one of the following is correct?
a. $(x+3)^2-(1)^2$ ✓ b. $(x+4)^2-(1)^2$
c. $(x+2)^2-(1)^2$ d. $(x-3)^2-(1)^2$
06. Which one is the square of the algebraic expression $a+b-c$?
a. $a^2+b^2+c^2$
b. $a^2+b^2-c^2-2ab-2bc-2ca$
c. $a^2+b^2+c^2+2ab-2bc-2ca$ ✓
d. $a^2+b^2+c^2-2ab+2bc-2ca$
07. If $x^2 + \frac{1}{x^2} = 1$, what is the value of $x + \frac{1}{x}$?
a. $\sqrt{2}$ b. $\sqrt{3}$ ✓
c. 2 d. 3
08. What is the value of $(a - \frac{1}{a})$, if $a + \frac{1}{a} = 4$?
a. 8 b. $\sqrt{2}$
c. $2\sqrt{3}$ ✓ d. $3\sqrt{2}$
09. If $a-b=5$ and $ab=3$ then what is the value of a^2+b^2 ?
a. 13 b. 19
c. 31 ✓ d. 37
10. If $a + \frac{1}{a} = 3$, then which is the value of $a^2 + \frac{1}{a^2}$?
a. 5 b. 7 ✓
c. 11 d. 13
11. Which one is square of $-a-b$?
a. $-a^2-2ab-b^2$ b. $a^2-2ab+b^2$
c. $a^2+2ab+b^2$ ✓ d. $a^2-2ab-b^2$
12. If $x - \frac{1}{x} = 6$, what is the value of $(x + \frac{1}{x})^2$?
a. 32 b. 38
c. 40 ✓ d. 44
13. if $a^4 + \frac{1}{a^4} = 119$ than $a^2 + \frac{1}{a^2} =$ what?
a. 11 ✓ b. $\sqrt{119}$
c. 13 d. 19
14. Which is the following is equal to AB if A and B are two fractions?
a. $(\frac{A+B}{2})^2 - (\frac{A-B}{2})^2$ ✓
b. $(\frac{A+B}{2})^2 + (\frac{A-B}{2})^2$
c. $(A+B)^2 - 4AB$
d. $(A-B)^2 + 4AB$
15. If $a+b = 5$, $a-b = 4$, $a^2-b^2 =$ What?
a. 9 b. 10
c. 15 d. 20 ✓
16. If $a^2 - 1 = 5a$, what is the value of $a^2 + \frac{1}{a^2} =$?
a. 21 b. 23
c. 25 d. 27 ✓
17. If $x+y = 5$ and $x-y = 3$ than
i. $x^2 - y^2 = 15$ ii. $x^2 + y^2 = 17$
iii. $xy = 34$
Which one of the following is corect?
a. i & ii ✓ b. i & iii
c. ii & iii d. i, ii & iii
If $x - \frac{1}{x} = 5$, then answer the question no 18 and 19
18. $(x - \frac{1}{x})^2 = ?$
a. 21 b. 23
c. 25 ✓ d. 29
19. $x^2 - \frac{1}{x^2} = ?$
a. 10 b. $25\sqrt{3}$
c. $5\sqrt{29}$ ✓ d. 2

Answer the Question no. 20 -21 in base of the following information:

$$p + q = 3, pq = 1$$

20. Which one of the following is the value of $p^2 + q^2 = ?$

- a. 5
b. $7\checkmark$
c. 11
d. 13

21. Which one of the following is the value of $p^2 - q^2 = ?$

- a. $3\sqrt{5}\checkmark$
b. $\sqrt{7}$
c. $\sqrt{13}$
d. $\sqrt{5}$

Answer the question no 22-23 in the light of the following information:

$$p+q=3, p-q=2$$

22. What is the value of p^3+q^3 ?

- a. $27-9pq\checkmark$
b. $27+9pq$
c. $18-9pq$
d. $18+9pq$

23. What is the value of pq ?

- a. $\frac{9}{5}$
b. $\frac{5}{9}$
c. $\frac{4}{5}$
d. $\frac{5}{4}\checkmark$

24. If $x - \frac{1}{x} = 2$, which one is the value of $x^3 + \frac{1}{x^3}$?

- a. $\sqrt{6}\checkmark$
b. 14
c. $\sqrt{2}$
d. $3\sqrt{6}\checkmark$

25. If $a^3-b^3=36$, $a-b=3$, the ab =what?

- a. -1
b. 0
c. $1\checkmark$
d. 3

26. If $x+y=2$, x^3+y^3+6xy =what?

- a. -8
b. 0
c. $8\checkmark$
d. 10

27. If $x + \frac{1}{x} = 2$ the n which one is the value of $(x^3 + \frac{1}{x^3})$

- a. 0
b. $2\checkmark$
c. 12
d. 14

28. If $x + \frac{1}{x} = 2 -$

- i. $x^2 + \frac{1}{x^2} = 2$
ii. $x^3 + \frac{1}{x^3} = 0$
iii. $x^4 + \frac{1}{x^4} = 4$

Which one of the following is correct?

- a. i and ii
b. i and iii \checkmark
c. ii and iii
d. i, ii and iii

29. i. $x^3+y^3=(x-y)(x^2+xy+y^2)$

ii. $ab = \left(\frac{a+b}{2}\right)^2 - \left(\frac{a-b}{2}\right)^2$

iii. $(x+y)^3=x^3+y^3+3xy(x+y)$

Which one of the following is correct?

- a. i and ii
b. i and iii
c. ii and iii \checkmark
d. i, ii and iii

30. The factors of $27a^3-8$ is?

- a. $(3a+2)(9a^2-6a+4)$
b. $(3a+2)(9a^2+6a+4)$
c. $(3a-2)(9a^2-6a+4)$
d. $(3a-2)(9a^2+6a+4)\checkmark$

31. A factor of x^4-2x^2+1 is-

- a. $2x+1$
b. $x^2+1\checkmark$
c. $(x+1)$
d. $2x-1$

32. Which one of the following is the factor of a^6-b^6 ?

- a. $(a-b)(a^5-b^5)$
b. $(a^2+b^2)(a^4+a^2b^2+b^4)$
c. $(a^2-b^2)(a^4+a^2b^2+b^4)\checkmark$
d. $(a^3-b^3)(a^4+a^2b^2+b^4)$

33. Which one of the following is the product of $(a+13)$ and $(a-11)$?

- a. $a^2-2a+143$
b. $a^2+2a-143\checkmark$
c. $a^2-24a+143$
d. $a^2+24a-143$

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STD-VIII, Chapter 5: Algebraic Fractions(MCQ)

01. If $\frac{x}{p}, \frac{y}{q}, \frac{z}{r}$ are expressed in fractions with common denominator then the result would be-

- a. $\frac{xqr}{pqr}, \frac{ypr}{pqr}, \frac{zpq}{pqr}$ ✓
b. $\frac{xpq}{pqr}, \frac{ypr}{pqr}, \frac{zrp}{pqr}$
c. $\frac{xrp}{pqr}, \frac{ypr}{pqr}, \frac{zqr}{pqr}$
d. $\frac{xqr}{pqr}, \frac{ypr}{pqr}, \frac{zrp}{pqr}$

02. Which one of the following indicates the product of $\frac{ab}{c^2d^3}$ and $\frac{a^3b^2}{c^2d^2}$?

- a. $\frac{a^3b^3}{c^4d^5}$
b. $\frac{a^4b^3}{c^4d^5}$ ✓
c. $\frac{a^3b^4}{c^5d^4}$
d. $\frac{a^4b^2}{c^5d^5}$

03. By which, one of the following the algebraic fractions can be expressed in general?

- a. $x \times y$
b. $\frac{x}{y}$ ✓
c. $2 \div$
d. 2×3

04. How much should be subtracted from the sum of $\frac{1}{x-y}$ and $\frac{1}{x+y}$ so that the result would be 2?

- a. $2 - \frac{2}{x^2-y^2}$
b. $2 - \frac{2x}{x^2-y^2}$ ✓
c. $\frac{2}{x^2-y^2} - 2$
d. $\frac{2x}{x^2-y^2} - 2$

05. i. The sum of $\frac{1}{x+y}$ and $\frac{1}{x-y}$ is equal to $\frac{2}{x^2-1}$

ii. H.C.F. of the denominators of the fractions

$$\frac{x}{(x-y)(y-z)}, \frac{y}{(y-z)(z-x)}, \frac{z}{(z-x)(x-y)} \text{ is } 1$$

iii. The product of more than one fractions means the ratio of product of numerators and product of denominators.

Which one of the following is correct on the basis of the above informations.

- a. i
b. i and ii
c. i and iii
d. ii and iii ✓

Observe the following four algebraic fractions:

$$\frac{x}{x+y}, \frac{y}{x-y}, \frac{y}{x+y}$$

Answer the questions (6-8) on the basis of the above informations:

06. Which one of the following is the L.C.M. of the above expression?

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

07. Which one of the following is the sum of the 1st and 2nd fractions?

- a. $\frac{x^2+y^2}{x^2-y^2}$ ✓
b. $\frac{2(x^2+y^2)}{x^2-y^2}$
c. $\frac{2x^2}{x^2-y^2}$
d. $\frac{y^2}{x^2-y^2}$

08. Which one of the following is the ratio of the sum of first two fractions and subtraction of last two fractions?

- a. $\frac{x^2+y^2}{2x^2}$
b. $\frac{x^2+y^2}{2y^2}$ ✓
c. $\frac{2x^2}{x^2-y^2}$
d. $\frac{y^2}{x^2-y^2}$

09. What is the simplified form of $\frac{3a}{6ab}$?

- a. $2a$
b. $\frac{1}{2b}$ ✓
c. $2a$
d. $\frac{1}{2a}$

10. What is the simplified form of $\frac{3abc}{15a^2b^2c}$?

- a. $\frac{1}{5a}$
b. $\frac{1}{5b}$
c. $\frac{1}{5ab}$ ✓
d. $\frac{1}{5a^2b^2}$

11. What is the simplified form of $\frac{x^4y^2z^2}{x^3y^3z^3}$

- a. $\frac{x}{yz}$ ✓
b. $\frac{xy}{z}$
c. $\frac{xz}{y}$
d. $\frac{yz}{x}$

12. What is the simplified form of $\frac{x^2-9}{ax+3a}$

- a. $\frac{x-3}{a}$ ✓
b. $\frac{a}{x+3}$
c. $\frac{x-3}{a}$
d. $\frac{a}{x-3}$

13. What is the simplified form of $\frac{x^2+4x+4}{x^2-4}$?

14. What is the common denominator of $\frac{x-2}{x+3}$ and $\frac{x+2}{x-2}$?
- a. $\frac{x-2}{x+3}$ b. $\frac{x+3}{x-2}$
 c. $\frac{x+2}{x-2}$ ✓ d. 1

15. What is the common denominator form of $\frac{1}{2b}$ and $\frac{3c}{4d}$?
- a. $\frac{1}{2b}, \frac{3c}{4d}$ b. $\frac{4ad}{4bd}, \frac{3ad}{4bc}$
 c. $\frac{2ad}{4bd}, \frac{3bc}{3bd}$ d. $\frac{2d}{4bd}, \frac{3bc}{4bd}$ ✓

16. What is the common denominator form of $\frac{x}{2a}$ and $\frac{y}{3a}$?
- a. $\frac{x}{6a}, \frac{y}{6a}$ b. $\frac{3x}{6a}, \frac{2y}{6a}$ ✓
 c. $\frac{2x}{6a}, \frac{3y}{6a}$ d. $\frac{6x}{6a}, \frac{4y}{6a}$

17. What is the common denominator form of $\frac{a}{bc}, \frac{b}{ca}, \frac{c}{ab}$?
- a. $\frac{ab}{abc}, \frac{bc}{abc}, \frac{ca}{abc}$ b. $\frac{a}{abc}, \frac{b}{abc}, \frac{c}{abc}$
 c. $\frac{1}{abc}, \frac{1}{abc}, \frac{1}{abc}$ d. $\frac{a^2}{abc}, \frac{b^2}{abc}, \frac{c^2}{abc}$ ✓

18. What is the addend of $\frac{xy}{3a}, \frac{yz}{4b}, \frac{zx}{6c}$?
- a. $\frac{4bxy}{12abc}, \frac{3cyz}{12abc}, \frac{2azx}{12bc}$
 b. $\frac{4xyz}{12abc}, \frac{3xyz}{12abc}, \frac{2xyz}{12abc}$
 c. $\frac{4bcxy}{12abc}, \frac{4abcyz}{12abc}, \frac{2abczx}{12bc}$
 d. $\frac{4bcxy}{12abc}, \frac{3cayz}{12abc}, \frac{2abzx}{12abc}$ ✓

19. What is the addend of $\frac{x}{4a}$ and $\frac{x}{2a}$?
- a. $\frac{3x}{4a}$ ✓ b. $\frac{x}{4a}$
 c. $\frac{3x}{8a}$ d. $\frac{x}{8a}$

20. What is the addend of $\frac{xy}{ab}$ and $\frac{2xy}{5ab}$?
- a. $\frac{xy}{ab}$ b. $\frac{2xy}{5ab}$
 c. $\frac{3xy}{5ab}$ ✓ d. $\frac{7xy}{5ab}$ ✓

21. What is the addend of $\frac{x^2}{x^2-y^2}$ and $\frac{y^2}{x^2-y^2}$?
- a. $x+y$ b. $x-y$
 c. $\frac{x+y}{x+y}$ ✓ d. $\frac{x+y}{x-y}$

22. What is the subtrahend $\frac{a^2}{a+b}$ from $\frac{b^2}{a+b}$?
- a. $a+b$ b. $a-b$ ✓
 c. $\frac{1}{a+b}$ d. $\frac{1}{a-b}$

23. i. Addend of $\frac{a^3}{a^2-ab+b^2}$ from $\frac{b^3}{a^2-ab+b^2}$ is $a+b$
 ii. Subtrahend of $\frac{3}{a-2}$ from $\frac{2}{a+2}$ is equal to $\frac{a+10}{a^2-4}$
 iii. Subtrahend of $\frac{x^4}{x^2+y^2}$ from $\frac{y^4}{x^2+y^2}$ equal to $x^2 - y^2$

Which one is correct?

- a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii ✓

24. i. Addend of $\frac{x-y}{a+b}, \frac{y+z}{a+b}$ and $\frac{z-x}{a+b}$ equal to $\frac{2z}{a+b}$
 ii. Addend of $\frac{a^2}{a^3-b^3}, \frac{ab}{a^3-b^3}$ and $\frac{b^2}{a^3-b^3}$ is $\frac{1}{a-b}$
 iii. Subtrahend of addition of $\frac{x^2}{x+y}$ and $\frac{y^2}{x+y}$ from $\frac{2xy}{x+y}$ is $x^2 + y^2$

Which one is correct?

- a) i b) ii ✓
 c) iii d) i and iii

25. i. $\frac{a^2}{a^3+b^3} - \frac{ab}{a^3+b^3} + \frac{b^2}{a^3+b^3} = a+b$
 ii. $\frac{x^2}{x-y} + \frac{y^2}{x-y} + \frac{2xy}{x-y} = x-y$
 iii. Addend of $\frac{1}{2a+1}$ and $\frac{1}{2a-1}$ is $\frac{4a}{4a^2-1}$

Which one is correct?

- a) i b) ii
 c) iii ✓ d) i and iii

26. i. If p and q are two algebraic fractions, the $\frac{p}{q}$ is called fraction.
 ii. The L.C.M of the denominator of

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STD-VIII, Chapter 6: Simple Simultaneous Equations(MCQ)

01. What is the degree of equation $2x+37=10$.
a) 1 ✓ b) 2
c) 3 d) 4
02. How many variables of the equation $2x-3y=4$?
a) 1 b) 2 ✓
c) 3 d) 4
03. Solution of the equations $2x +5y=16$ and $x-2y=-1$ is?
a) (8,0) b) (3,2) ✓
c) (1,2) d) $(\frac{1}{2}, 3)$
04. If $x+2y=5$ and $2x=6$ then which is the root of equations.
a) (-3,5) b) (-1,3)
c) (1,2) d) (3,1) ✓
05. If $x-y=2a$ and $ax +by = a^2+b^2$, then $(x,y)=$ what?
a) (a,b) b) (b,a)
c) (a+b, a-b) d) (a+b, b-a) ✓
06. Which one of the following is correct if $x = \frac{3}{4}$
a) $4x+3=0$ b) $4x+3=4$
c) $4x-6=0$ d) $4x-3=0$ ✓
07. For which value of (x,y) the equation $2x+3y=14$ is satisfied?
a) (4,2) ✓ b) (4,1)
c) (1,4) d) (2,4)
08. What is the solution of the equation $2x+y=7$ and $x+2y=8$?
a) (8,0) b) (6,1)
c) (4,2) d) (2,3) ✓
09. If $x+y=7$ and $x-y=3$ then, what is the value of (x,y) ?
a) (2,2) b) (2,5)
c) (10,4) d) (5,2) ✓
10. If $x = 0$ in equation $x + 7y = 14$, which one is the value of y ?
a) 2 ✓ b) 4
c) 0 d) 8
12. Which one is the common point of the equations $x + y = 7$ and $x - y = 1$.
a) (-3, -4) b) (3,4)
c) (4,3) ✓ d) (-4, 3)
13. If $ax-by=a-b$ and $ax+by=a+b$, $(x,y)=?$
a) (a,b) b) (-a, -b)
c) (1,1) ✓ d) (-1, 1)
14. Equation $3x + 7y = 16$ is a-
i. simple equation
ii. 1st degree equation
iii. 2nd degree equation
Which one of the following is correct?
a) i and ii ✓ b) ii and iii
c) i and iii d) i, ii, and iii
- Answer the question no. 15 and 16 according to the following informations:
 $x+3y=10$ (i)
 $5x-2y=16$ (ii)
15. Which one of the following is correct if we multiplied equation (i) by 5 and subtracted equation (ii) from that?
a) $13y=43$ b) $13y=66$
c) $17y=34$ ✓ d) $17y=43$
16. What is the solution of equations?
a) (5,2) b) (4,2) ✓
c) (2,5) d) (2,4)
17. Which one of the following point lies on x-axis?
a) (3,3) b) (-3, 5)
c) (0,4) d) (4,0) ✓
18. In which quadrant the point $(-2,-3)$ will be?
a) 1st quadrant b) 2nd quadrant
c) 3rd quadrant ✓ d) 4th quadrant

19. In which quadrant the point A(-3,4) located?
 a) 1st b) 2nd✓
 c) 3rd d) 4th
20. What is the distance of the point A(3,4) from x-axis?
 a) 3 b) 4✓
 c) 5 d) 7
21. How long unit is the point (4,5) situated from x-axis?
 a) 1 b) 4
 c) 5✓ d) 9
22. In which quadrant is the point (4,-3) situated?
 a) First b) Second
 c) Third d) Fourth✓
23. In which quadrant the point (3, -5) is situated?
 a) 1st b) 2nd
 c) 3rd d) 4th✓
24. Sum of two numbers is 14 and difference of them is 2. What are the two numbers?
 a) (7,7) b) (8,6) ✓
 c) (16,2) d) (9,5)
25. In a two digits number the digit of unit and tens place are x and y respectively. What is the number?
 a) xy b) yx
 c) 10x+y d) 10y+x✓
26. The present age of brother and sister are 40 years and 30 years respectively; what was the ratio of their age before 10 years?
 a) 3:2✓ b) 2:3
 c) 4:3 d) 5:4
27. The sum of two numbers is 36 and their ratio is 5:4. Which is the greater number?
 a) 20✓ b) 16
 c) 14 d) 10
28. Father's age is 4 times of his son's age. Before 4 years total ages of father and son was 52 years. What is the present age of father?
 a) 32 b) 38
 c) 48✓ d) 52
29. The age of Tuhin is 5 years. if the age of Rifat is 5 times of Tuhin age what is the age of Rifat?
 a) 10 years b) 25 years✓
 c) 30 years d) 20 years
30. If 12 is added to the four times of a number, it will be 20. What is the number?
 a) 5 b) 3
 c) 2✓ d) 1
31. The point on the graph of the equation $x+3y=4$
 i. (1,1)
 ii. (-2,2)
 iii. (2,3)
 Which one is correct?
 a) i and ii✓ b) i and ii
 c) ii and iii d) i, ii and iii
- The present age of father is 5 years more than two times of the present age of son and the total present age is 80 years of father and son.
 Answer the questions from 32-34 in respect of the above information:
32. What is the present age of father, when the present age of son is x year?
 a) $x(2x+5)$ b) $x(2x-5)$
 c) $2x-5$ d) $2x+5$ ✓
33. What is the present age of son in year?
 a) 25✓ c) 35
 c) 55 d) 75
34. What will be the ratio of the ages of father and son after 5 years?
 a) 5:11 b) 11:5
 c) 2:1✓ d) 1:2
- P(3,4) is a point in XY plane.
35. What is the distance from P to y-axis?
 a) 3✓ b) 4
 c) 5 d) 7

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STD-VIII, Chapter 7: Set(MCQ)

01. Who is the father of modern set theory?
a) John Venn b) Galileo
b) Pythagorus d) George Cantor✓
02. If A and B are two sets and $A \cap B = \emptyset$, then sets are-
a) Empty set b) Disjoint set✓
c) Universal set
d) Complement of a set
03. If $U = \{a,b,c,d\}$ and $X = \{b,d\}$ $X' = ?$
a) $\{a,b,c,d\}$ b) $\{a,b,c\}$
c) $\{a,c\}$ ✓ d) $\{b,d\}$
04. If $U = \{1,2,3,a\}$, $A = \{1,a,b\}$ then $A' = ?$
a) $\{1,2,3,a\}$ b) $\{1,2,3\}$
c) $\{2,3\}$ ✓ d) $\{1,2,3,\emptyset\}$
05. If $P = \{1,2,3\}$, $Q = \emptyset$, then $P \cup Q = ?$
a) \emptyset b) $1,2,3$
c) $\{1,2,3\}$ ✓ d) $\{1,2,3,\emptyset\}$
06. Which one is tabular form of set $A = \{x : x \text{ is even number and } 2 \leq x < 8\}$
a) $\{2,4,6\}$ ✓ b) $\{2,4,8\}$
c) $\{4,6,8\}$ d) $\{2,4,6,8\}$
07. How many subset of empty set?
a) 0 b) 1✓
c) 2 d) uncountable
08. If $A = \{2,4,6,7,8\}$ and $B = \{2,4,6\}$ How many numbers of subset of the set $A \cap B$?
a) 3 b) 8✓
c) 16 d) 32
09. Which one is the tabular form of $A = \{x : x \text{ is a prime factor of } 6\}$?
a) $\{2,3\}$ ✓ b) $\{1,3,6\}$
c) $\{1,2,3,6\}$ d) $\{2,3,6\}$
10. Which one is the tabular form of $A = \{x : x \text{ is even number and } 4 < x < 6\}$?
a) $\{4,5,6\}$ b) b) $\{4,6\}$
c) $\{5\}$ d) $\{ \}$ ✓
11. If $P = \{x,y\}$, $Q = \{y,z\}$ then $P \cap Q = ?$
a) $\{x,y,z\}$ b) $\{x\}$
c) $\{y\}$ ✓ d) $\{ \}$
12. If the number of subsets of the set A is 8 then which one is the number of elements of the set A?
a) 2 b) 3✓
c) 4 d) 8
13. Which one is the tabular form of $S = \{x : x \text{ is a prime factor of } 12\}$?
a) $\{1,2,3\}$ b) $\{2,3\}$ ✓
c) $\{2,3,6\}$ d) $\{1,2,3,6\}$
14. How many subsets are $A = \{a,b,c,d\}$?
a) 8 b) 14
c) 15 d) 16✓
15. If $A = \{2,3,5\}$ and $B = \{2,5,6\}$, $A \cup B = ?$
a) $\{1,3\}$ b) $\{1,2,4\}$
c) $\{1,3,4\}$ d) $\{2,3,5,6\}$ ✓
16. What is the set of factors of 8?
a) $\{1,8\}$ b) $\{2,4\}$
c) $\{8,16,24\}$ d) $\{1,2,4,8\}$ ✓
17. If $A = \{2,3,5\}$ and $B = \{2,5,6\}$, $A \cap B = ?$
a) $\{2,3\}$ b) $\{2,5\}$ ✓
c) $\{3,5\}$ d) $\{2,3,5,6\}$
18. If $A = \{3,4\}$, $B = \{ \}$, $A \cup B = ?$
a) $\{3,4\}$ ✓ b) $\{4\}$
c) $\{3\}$ d) $\{ \}$
19. $A = \{x : x \in \mathbb{N} \text{ and } x \text{ is the factor of } 12\}$. Which set is the tabular form of set A?
a) $\{1,2,3,6,12\}$ b) $\{1,3,4,6,12\}$
c) $\{2,3,4,6,12\}$ d) $\{1,2,3,4,6,12\}$ ✓
20. If $A = \{1,3,5\}$ and $B = \{2,4,6\}$, then $A \cap B = ?$
a) $\{3,4,6\}$ b) $\{4,5\}$
c) $\{ \}$ d) \emptyset ✓
21. If $C = \{1,2,3\}$, then how many subset of $P(C)$?
a) 6 b) 7

- c) $8\checkmark$ d) 9
22. $A = \{\text{Khata, pen}\}$ $B = \{\text{Book, pen}\}$
 $A \cap B = ?$
 a) $\{\text{Khata, book}\}$ b) $\{\text{Khata}\}$
 c) $\{\text{Book}\}$ d) $\{\text{Pen}\}\checkmark$
23. $P = \{x: x, \text{ odd natural number and } 1 < x < 7\}$
 which one is the tabular form of p?
 a) $\{1\}$ b) $\{7\}$
 c) $\{1,7\}$ d) $\{3,5\}\checkmark$
24. What is the number of subsets of the set $\{1,2,3,4\}$?
 a) 4 b) 8
 c) $16\checkmark$ d) 32
25. Which one of the Tabular method of $A = \{x: x \in \mathbb{N} \text{ where } 1 < x \leq 4\}$ [N=natural number]
 a) $\{2,3\}$ b) $\{1,2,3\}$
 c) $\{2,3,4\}\checkmark$ d) $\{1,2,3,4\}$
26. If $U = \{a,b,c,d,e,f\}$, $A = \{a,c,f\}$. Which one of A^c below?
 a) $\{a,b\}$ b) $\{b,c,d\}$
 d) $\{d,e,f\}$ d) $\{b,d,e\}\checkmark$
27. If $B = \{x: x \in \mathbb{N} \text{ and } x^2 < 25\}$, then B = what?
 a) $\{ \}$ b) $\{1,2,3,4\}\checkmark$
 c) $\{2,3,4\}$ d) $\{ \dots 2, 3, 4\}$
28. Observe the following informations:
 i. all set are subset of the universal set
 ii. Empty set is the subset of given sets.
 iii. If A and B are mutually disjoint set then $A \cap B = \emptyset$
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii \checkmark
 Answer question no 29-30 in the light of the information given below:
 $U = \{1,2,3,4,5,6\}$; $A = \{1,3,5\}$
 $B = \{2,4,6\}$ and $C = \{4,5,6\}$
29. $(A \cap B) \cap C = ?$
 a) U b) A
 c) B d) $\emptyset\checkmark$
30. $A^c = ?$
 a) A/B b) B/C
 c) B \checkmark d) C/B