

Number series

1. How many terms are there in the series? 201, 208, 215, ----- 369

(A) 23

(B) 24

(C) 25

(D) 26

Answer: (C) 25

2. $2^2 + 4^2 + 6^2 + \dots + 20^2 = \text{-----}$

(A) 1155

(B) 1540

(C) 2310

(D) 385×385

Answer: (B) 1540

3. Find the sum of the first 40 terms of the series $1^2 - 2^2 + 3^2 - 4^2 + \dots$

(A) 820

(B) - 820

(C) 870

(D) - 870

Answer: (B) - 820

4. Find the sum of the following series $2^2 + 3^2 + \dots + 20^2$

(A) 2867

(B) 2868

(C) 2869

(D) 2870

Answer: (C) 2869

5. $\frac{1}{1.2.3} + \frac{1}{2.3.4} + \frac{1}{3.4.5} + \frac{1}{4.5.6}$ is equal to

(A) $\frac{15}{31}$

(B) $\frac{7}{30}$

(C) $\frac{16}{21}$

(D) $\frac{21}{27}$

Answer: (B) $\frac{7}{30}$

6. Find the value of $(1 - 1/3) (1 - 1/4) (1 - 1/5) \dots (1 - 1/100)$

(A) $1 / 100$

(B) $1 / 50$

(C) $2 / 3$

(D) $99 / 100$

Answer: (B) $1 / 50$

7. In a geometric series, if the fourth term is $2 / 3$ and seventh term is $16 / 81$, then what is the first term of the series?

(A) $2 / 3$

(B) $4 / 9$

(C) $8 / 27$

(D) $9 / 4$

Answer: (D) 9 / 4

8. The seventh term in the series 2, 6, 12, 20, 30,

(A) 42

(B) 72

(C) 56

(D) 90

Answer: (C) 56

9. The value of $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \dots + \frac{1}{\sqrt{9}+\sqrt{8}}$ is:

(A) $1 + \sqrt{2} + \sqrt{3} + \sqrt{4} + \dots + \sqrt{9}$

(B) $\sqrt{3} + \sqrt{5} + \sqrt{7}$

(C) $10\sqrt{5}$

(D) 2

Answer: (D) 2

10. The 20th term of 2, 10 30, 68,

(A) 408

(B) 8020

(C) 820

(D) 420

Answer: (B) 8020

11. Find the sum of first 20 multiples of 15

(A) 3150

(B) 3050

(C) 2750

(D) 2950

Answer: (A) 3150

12. Find the sum of the first 20 terms of the series $1^2 - 2^2 + 3^2 - 4^2 + 5^2 - 6^2 + \dots$.

(A) - 420

(B) - 210

(C) 2870

(D) 420

Answer: (B) - 210

13. $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$ is equal to

(A) 2.5

(B) 2.0

(C) 1.5

(D) 1.0

Answer: (B) 2.0.

14. Find the sum of the first 20 terms of the geometric series $5/2 + 5/6 + 5/18 + \dots$

(A) $\frac{15}{4} \left[1 - \left(\frac{1}{3}\right)^{20} \right]$

(B) $\frac{15}{4} \left[1 - \left(\frac{1}{3}\right)^{18} \right]$

(C) $\frac{15}{4} \left[1 - \left(\frac{1}{3}\right)^{16} \right]$

(D) $\frac{15}{4} \left[1 - \left(\frac{1}{3}\right)^{14} \right]$

Answer: (A) $\frac{15}{4} \left[1 - \left(\frac{1}{3}\right)^{20} \right]$

15. If $1^3 + 2^3 + 3^3 + \dots + n^3 = 36100$ then $1 + 2 + 3 + \dots + n$ is equal to

- (A) 290
- (B) 190
- (C) 390
- (D) 490

Answer: (B) 190

16. Find the sum of all-natural numbers between 300 and 500 which are divisible by 11.

- (A) 7337
- (B) 7227
- (C) 7447
- (D) 7557

Answer: (B) 7227

17. The product of n consecutive positive integers is divisible by

- (A) $(n + 1)!$
- (B) $n!$
- (C) $(n - 1)!$
- (D) $(n + 1)(n - 1)$

Answer: (B) $n!$

18. The 5th term in the series $2 / 5, 6 / 25, 18 / 125, \dots$

- (A) $162 / 625$
- (B) $81 / 3125$

(C) 54 / 625

(D) 162 / 3125

Answer: (D) 162 / 3125

19. The sum of all 3-digit numbers which are divisible by 8 is

(A) 61376

(B) 63176

(C) 67136

(D) 66137

Answer: (A) 61376