

EXERCISE

1. Find the unit digit of $(23758)^{6149}$.
(a) 2 (b) 4 (c) 6 (d) 8
2. If a number is represented by $N = 84 \times 192 \times 217 \times 301$. What will be remainder when N is divided by 27?
(a) 7 (b) 6 (c) 5 (d) 9
3. The remainder when 6^{100} is divided by 7, is :
(a) 3 (b) 0 (c) 1 (d) 2
4. If $10\frac{1}{3} + 13\frac{1}{3} + x = 40\frac{4}{3}$ Find the value of x.
(a) $17\frac{12}{15}$ (b) $16\frac{11}{17}$ (c) $17\frac{2}{3}$ (d) 17
5. $85 \div 5 + (\overline{5-9} \times 6) + 7$
(a) 2 (b) 0 (c) 24 (d) 17
6. The value of $2.42\overline{7}$ in the form of fraction is
(a) $2\frac{136}{330}$ (b) $2\frac{73}{280}$ (c) $2\frac{77}{180}$ (d) $2\frac{161}{3}$
7. Two no. are such that their sum is 11 and their difference is 7. Find their product :
(a) 8 (b) 30 (c) 18 (d) None
8. The value of $\sqrt{3\sqrt{3\sqrt{3\ldots\infty}}}$ is
(a) 0 (b) 1 (c) $3\sqrt{3}$ (d) 3
9. If $a = 7 - \frac{10}{a}$ then find a :
(a) 10, -2 (b) 2, 5 (c) -2, 5 (d) None
10. The value of the expression $\left[1 - \frac{1}{2}\right]\left[1 - \frac{1}{3}\right]\ldots\left[1 - \frac{1}{n}\right]$ is equal to :
(a) $\frac{1}{n}$ (b) $\frac{2}{n}$ (c) $\frac{n(n-1)}{n}$ (d) n
11. $\left(\frac{167 \times 167 + 167 \times 160 + 160 \times 160}{167 \times 167 \times 167 - 160 \times 160 \times 160}\right)$ is equal to
(a) 7 (b) $\frac{1}{7}$ (c) $\frac{1}{327}$ (d) 327

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12. The unit digit in the product of $(3217)^{143}$ is :
 (a) 3 (b) 7 (c) 9 (d) 1
13. For any natural number n , $n^4 + n^2$ is always
 (a) odd (b) even
 (c) either even or odd (d) Can't say
14. A number when divided by 117 leaves 17 as remainder. If the same number is divided by 13, the remainder obtained is :
 (a) 2 (b) 1 (c) 11 (d) 4
15. By what smallest number, 32500 must be multiplied or divided in order to make it a perfect square ?
 (a) 6 (b) 5 (c) 13 (d) 10
16. What should come in place of the question mark in the following equation?
 $? \% \text{ of } 6110 = 47 \times 52$
 (a) 30 (b) 40 (c) 50 (d) 60
17. Find the value $13\frac{7}{9} \div 4\frac{2}{3} + \frac{28}{5} \times \frac{40}{3} =$
 (a) $76\frac{2}{7}$ (b) $77\frac{13}{21}$ (c) $76\frac{13}{21}$ (d) $77\frac{2}{7}$
18. Find the value of $(15.5)^2 + (8)^2 + (13)^2 - (28)^2$
 (a) 132.75 (b) 135.25
 (c) 137.25 (d) 137.75
19. If $x = \sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$ then what would be the value of x ?
 (a) 2 (b) 3 (c) 4 (d) 5
20. What would be the value of y , if $\frac{1}{x} + \frac{2}{y} = \frac{3}{z}$?
 (a) $\frac{xy}{2z-x}$ (b) $\frac{2xz}{3y-x}$ (c) $\frac{2xz}{3x-z}$ (d) z
21. Find the value of $\frac{1}{1 - \frac{1}{1 - \frac{1}{1 - \frac{1}{x}}}}$
 (a) x (b) $1/x$ (c) 0 (d) None
22. $\frac{(743 + 343)^2 + (743 - 343)^2}{743 \times 743 + 343 \times 343}$ is equal to :
 (a) 1 (b) 719 (c) 2 (d) 965
23. The last digit of the number $1^3 + 2^3 + 3^3 + \dots + 99^3$ is
 (a) 0 (b) 1 (c) 2 (d) 4
24. Which among the following is greatest $\sqrt{6}$, $\sqrt[3]{12}$, $\sqrt[4]{126}$
 (a) $\sqrt{6}$ (b) $\sqrt[3]{12}$
 (c) $\sqrt[4]{126}$ (d) All are equal
25. Which among the following is greatest
 $\sqrt{8} + \sqrt{3}$, $\sqrt{6} + \sqrt{5}$, $\sqrt{7} + \sqrt{4}$
 (a) $\sqrt{8} + \sqrt{3}$ (b) $\sqrt{6} + \sqrt{5}$
 (c) $\sqrt{7} + \sqrt{4}$ (d) All are equal
26. The unit digit in the expression $(31^1 + 32^2 + 33^3 + 34^4 + 35^5 + 36^6)$ is :
 (a) 1 (b) 9 (c) 7 (d) 0
27. Simplify $\frac{(7.64 \times 7.64 \times 7.64) + (8.36 \times 8.36 \times 8.36)}{(7.64 \times 7.64) - (7.64 \times 8.36) + (8.36 \times 8.36)}$
 (a) 0 (b) 1 (c) 16 (d) 13
28. How many numbers between 300 and 600 are divisible by 4, 5 and 6 ?
 (a) 5 (b) 6 (c) 4 (d) 7
29. If $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$ then what would be the value x ?
 (a) 2 (b) 3 (c) 4 (d) 5
30. What would be the value of y , if $\frac{1}{x} + \frac{2}{y} = \frac{3}{z}$
 (a) $\frac{xy}{2z-x}$ (b) $\frac{2xz}{3y-x}$ (c) $\frac{2xz}{3x-z}$ (d) z
31. Find the remainder when $((11^{12})^{13})^{14}$ is divided by 9.
 (a) 8 (b) 9 (c) 2 (d) 1
32. $25\sqrt{7}(49\sqrt{5} + 7) = 5^x 7^y (7\sqrt{5} + 1)$. Find x and y .
 (a) 2, $\frac{3}{2}$ (b) $\frac{3}{2}$, 2 (c) 3, 2 (d) 2, 3
33. A group of players play a game in which each player contributes an amount equal to the number of players in the group and the winner of the game gets this entire amount as the prize money. The number of times they play this game is equal to the number of players in their group. If a person who wins half the number of games earns four times the money he contributes for each game, then the number of players in the group is:
 (a) 2 (b) 4 (c) 16 (d) 8