1. $\sqrt{12\sqrt{12\sqrt{12\sqrt{12\ldots\infty}}}}$ =?

$a)8$ $b)12$ $c)36$ $d)6$

2. If $\sqrt{7\sqrt{7\sqrt{7\sqrt{7\ldots\infty}}}} = 343^{y-1}$ then y=?

a) $\frac{4}{3}$ b) $\frac{3}{2}$ c) $\frac{5}{4}$ d) 1

3. $\sqrt[3]{64\sqrt[3]{64\sqrt[3]{64\ldots\ldots\ldots\ldots}}}$ =?

a)4 b)8 c)16 d)$4\sqrt{2}$

4. Solve $\sqrt[5]{243\sqrt[5]{243\sqrt[5]{243\ldots\ldots\ldots\infty}}}$?

a)2 b)3 c)4 d)$16^{\frac{1}{6}}$

5. $\sqrt[4]{0.512\sqrt[4]{0.512\sqrt[4]{0.512\ldots\ldots\ldots\infty}}}$

A) 0.16
B) 0.8
C) 0.12
D) 0.08

6. If $x^m = \sqrt[14]{x\sqrt{x\sqrt{x}}}$, then what is the value of m?

यदि $x^m = \sqrt[14]{x\sqrt{x\sqrt{x}}}$ है तो m का मान क्या है?

(A) $\frac{1}{8}$ (B) $\frac{1}{4}$ (C) $\frac{3}{4}$ (D) $\frac{7}{4}$

7. $\sqrt{27 \div \sqrt{27 \div \sqrt{27 \div \sqrt{27\ldots\ldots\ldots\infty}}}}$ =?

$a)3$ $b)3\sqrt{3}$ c)$\sqrt{3}$ d)9

8. if $\sqrt{x}^{\sqrt{x}^{\sqrt{x}^{\sqrt{x}^{****\infty}}}} = \frac{1}{2}$ then x=?

$a)\frac{1}{8}$ b) $\frac{1}{4}$ c) $\frac{1}{16}$ d) $\frac{1}{32}$

9. Find $\sqrt{12\sqrt{12\sqrt{12\sqrt{12\sqrt{12\sqrt{12}}}}}}$ =?

a) $12^{\frac{32}{31}}$ b) $12^{\frac{64}{63}}$
c) $12^{\frac{31}{32}}$ d) $12^{\frac{63}{64}}$

10. $if \sqrt[3]{11\sqrt[3]{11\sqrt[3]{11\sqrt[3]{11\sqrt[3]{11}}}}} = 121^k$ then k=?

11. $\sqrt[m]{a\sqrt[n]{b\sqrt[m]{a\sqrt[n]{b\sqrt[m]{a\sqrt[n]{b}}}}}}$ ..... ∞ can be written as ?

a) $\sqrt[mn-1]{a^n b}$ b) $\sqrt[mn]{ab}$
c) $\sqrt[mn-1]{b^n a}$ d) $\sqrt[mn+1]{a^n b}$

12. Find $\sqrt{2\times\sqrt[3]{4\times\sqrt{2\times\sqrt[3]{4\times\sqrt{2\times\sqrt[3]{4}}}}}}$ ..... ∞ =?

a) $\sqrt{2}$ b) 2 c) 4 d) $4\sqrt{2}$

13. Find the value of $\sqrt{30+\sqrt{30+\sqrt{30+\cdots}}}$

$\sqrt{30+\sqrt{30+\sqrt{30+\cdots}}}$ का मान ज्ञात कीजिए?

(a)5 (b)$3\sqrt{10}$
(c)6 (d)7

14. Let x= $\sqrt{272+\sqrt{272+\sqrt{272+\sqrt{272+\cdots}}}}$ to infinity ; then x equals

a) 16 b) $4\sqrt{13}$
b) c) 17 d) 4.35

15. What is the value of $2+\sqrt{2+\sqrt{2+\sqrt{2+\cdots}}}$?

$2+\sqrt{2+\sqrt{2+\sqrt{2+\cdots}}}$ का मान क्या है?

(a) 1 (b) 2 (c) 3 (d) 4

16. If $x^2-20=\sqrt{20+\sqrt{20+\sqrt{20+\sqrt{20+\cdots}}}}$ ..... $infinite\ terms$, then what is x equal to?

अगर $x^2-20=\sqrt{20+\sqrt{20+\sqrt{20+\sqrt{20+\cdots}}}}$ ..... $infinite\ terms$, तो x किसके बराबर है?

A) 4
B) 5
C) $\sqrt{5}$
D) $2\sqrt{5}$

17. Let $x=\sqrt{42-\sqrt{42-\sqrt{42-\sqrt{42-\cdots \text{to infinity}}}}}$; then x equals

a) 6 b) 7

c) Between 6 and 7 d) Greater than 7

18. $\sqrt{0.56+\sqrt{0.56+\cdots\ldots\ldots\ldots\ldots\infty}}=?$

A) 1.4
B) 1.2
C) 1.3
D) 1.1

19. $\sqrt{\frac{15}{4}+\sqrt{\frac{15}{4}+\sqrt{\frac{15}{4}+\cdots\ldots\ldots\ldots\ldots\infty}}}=?$

A) 1.5
B) 2.5
C) 3
D) 2.75

20. $\frac{\sqrt{210+\sqrt{210+\sqrt{210+\cdots}}}}{\sqrt{156-\sqrt{156-\sqrt{156-\cdots}}}}$ = ?

$a)1$ $b)1.33$ c)1.25 d)1.5

21. If a and b are two consecutive natural numbers such that a<b, then find the value of $\sqrt{ab+\sqrt{ab+\sqrt{ab+\cdots\ldots\ldots\ldots\infty}}}$?

यदि a और b दो क्रमागत प्राकृत संख्याएँ हैं जहाँ a<b, तो $\sqrt{ab+\sqrt{ab+\sqrt{ab+\cdots\ldots\ldots\ldots\infty}}}$ का मान ज्ञात कीजिए?

A) ab C) a
B) b D) a+b

22. If $\frac{\sqrt{8\sqrt{8\sqrt{8\sqrt{8}}}}*\sqrt{56+\sqrt{56+\sqrt{56+\cdots}}}}{\sqrt{2\sqrt{2\sqrt{2\sqrt{2}}}}*\sqrt{20-\sqrt{20-\sqrt{20-\cdots}}}}=2^b$ then b=?

23. $\sqrt{31+\sqrt{31+\sqrt{31+\sqrt{31+\cdots\infty}}}}=?$

a) $5\sqrt{5}-1.5$ b) $2.5\sqrt{5}+0.5$

c) $\frac{5\sqrt{5}-1}{2}$ d) $\frac{2\sqrt{31}+1}{2}$

24. $\sqrt{14+\sqrt{14+\sqrt{14+\sqrt{14+\cdots\infty}}}}$ lies between

a) 4 and 4.5 b) 4.5 and 5

c)3 and 4 d) none

25. Find $\sqrt{19-\sqrt{19-\sqrt{19-\sqrt{19\ldots\infty}}}}=?$

a) $\frac{\sqrt{77}-1}{2}$ b) $\frac{\sqrt{19}+3}{2}$

c) $\frac{\sqrt{77}+1}{2}$ d) Between 4 and 5

26. If A= $\sqrt{10-\sqrt{10-\sqrt{10-\sqrt{10\ldots\infty}}}}$ then which of the following is true ?

a)A=2.5 b)2.5<A<3 c)$\frac{\sqrt{41}-3}{2}$ d)greater than 3

27. If a= $\sqrt{13+\sqrt{13+\sqrt{13+\sqrt{13\ldots\infty}}}}$ and

b= $\sqrt{13-\sqrt{13-\sqrt{13-\sqrt{13\ldots\infty}}}}$, then which option is true?

a) a + b + 1=0 b) a - b - 1=0

c) a - b + 1=0 d) a - b + 1=0

28. $\left(\sqrt{17+\sqrt{17+\cdots\ldots\infty}}\right)-\left(\sqrt{17-\sqrt{17-\cdots\ldots\ldots\infty}}\right)$

A) 1

B) 2

C) 3

D) None

29. $\left(\sqrt{\frac{999}{11}+\sqrt{\frac{999}{11}+\sqrt{\frac{999}{11}+\cdots\ldots\infty}}}\right)\left(\sqrt{\frac{999}{11}-\sqrt{\frac{999}{11}-\sqrt{\frac{999}{11}-\cdots\ldots\infty}}}\right)=?$

A) 999/11

B) 999/7

C) 9

D) None

30. The value of $p+\sqrt{p^2+\sqrt{p^4+\sqrt{p^8+\sqrt{p^{16}}}}\ \ldots\infty}$

a) $p\left(\frac{\sqrt{5}+2}{2}\right)$ b) $p\left(\frac{3+\sqrt{5}}{2}\right)$

c) $\frac{p}{1+\sqrt{p}}$ d) $p\left(\frac{\sqrt{5}+1}{2}\right)$

31. Find $\sqrt{35+2\sqrt{35+2\sqrt{35+2\sqrt{35+\cdots\infty}}}}$ =?

a)6 b) 7 d) 5 d)6.4

32. Find $\sqrt{154+3\sqrt{154+3\sqrt{154+3\sqrt{154+\cdots\infty}}}}$ =?

a)13 b) 14 d) 11 d) $\frac{\sqrt{613}+9}{2}$

33. $\sqrt{750-5\sqrt{750-5\sqrt{750\ldots\ldots\ldots\infty}}}$=?

A) 20
B) 25
C) 30
D) 10

34. Find $\sqrt{3+4\sqrt{3+4\sqrt{3+4\sqrt{3+\cdots\infty}}}}$ =?

a)$\sqrt{7}+2$ b) $2\sqrt{7}-3$
d) $2\sqrt{7}$ d) $4+\sqrt{7}$

35. Find $\sqrt{5-2\sqrt{5-2\sqrt{5-2\sqrt{5-\cdots\infty}}}}$ =?

a)$\sqrt{2}+1$ b) $\sqrt{6}-1$ d) $2\sqrt{2}-5$ d) $\sqrt{5}-2$

36. If P= $\sqrt{11+3\sqrt{11+3\sqrt{11+3\sqrt{11+\cdots\infty}}}}$ *and*

Q= $\sqrt{11-3\sqrt{11-3\sqrt{11-3\sqrt{11-\cdots\infty}}}}$ then P+Q=?

a)$\sqrt{47}$ b)$\sqrt{65}$ c)$\sqrt{41}$ d)$\sqrt{53}$

37. If x = $\sqrt{x+2\sqrt{x+2\sqrt{x+2\sqrt{x+2\sqrt{x\ldots\ldots\ldots\infty}}}}}$, then find x?

a)1 b)2 c)3 d)4

38. Let x= $\sqrt{4+\sqrt{4-\sqrt{4+\sqrt{4-\cdots}}}}$ to infinity; then x equals

a) 3 b) $\sqrt{13}$ c) $\frac{\sqrt{13}-1}{2}$ d) $\frac{\sqrt{13}+1}{2}$

39. Let $x=\sqrt{6-\sqrt{6+\sqrt{6-\sqrt{6+\cdots \text{to infinity}}}}}$; then x equals

a) 3 b) $\sqrt{21}$ c) $\frac{\sqrt{21}-1}{2}$ d) $\frac{\sqrt{21}+1}{2}$

40. Let $x=\sqrt{13-\sqrt{13+\sqrt{13-\sqrt{13+\cdots\infty}}}}$; then x equals

a) 3 b) $\sqrt{21}$ c)2 d) $\frac{\sqrt{19}+1}{2}$

41. Let $x=\sqrt{10+3\sqrt{10-3\sqrt{10+3\sqrt{10-\cdots}}}}$; then x equals

a) $\frac{\sqrt{19}-3}{2}$ b)$3\sqrt{5}$ c)$\frac{\sqrt{13}+3}{2}$ d) $\frac{\sqrt{17}+1}{2}$

42. $\sqrt{7+2\sqrt{7-2\sqrt{7+2\sqrt{7-2\sqrt{7+\cdots\ldots\ldots}}}}}=?$

A) $\sqrt{15}$ B) 4 C) $\frac{3+\sqrt{15}}{2}$ D) 3

43. Let $x=\sqrt{7-2\sqrt{7+2\sqrt{7-2\sqrt{7+\cdots}}}}$; then x equals

a) 1 b)$\sqrt{2}$ c)2 d) none

44. If $m=\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{3+\cdots\ldots}}}}$, then find m?

यदि $m=\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{3+\cdots\ldots}}}}$ है, तो m ज्ञात कीजिये?

A) $\frac{\sqrt{15}-3}{2}$ C) $\frac{\sqrt{15}+3}{2}$

B) $\frac{\sqrt{13}+3}{2}$ D) $\frac{\sqrt{13}-3}{2}$

45. Which among $2^{1/2}, 3^{1/3}, 4^{1/4}, 6^{1/6}$ and $12^{1/12}$ is the largest?

a) $2^{1/2}$ b) $3^{1/3}$ c) $4^{1/4}$ d) $6^{1/6}$ e) $12^{1/12}$

46. Which of the following is the smallest among

निम्नलिखित में से कौन सबसे छोटा है?

$(14)^{\frac{1}{3}}, (12)^{\frac{1}{2}}, (16)^{\frac{1}{6}}$ & $(25)^{\frac{1}{12}}$?

(a) $(14)^{\frac{1}{3}}$

(b) $(25)^{\frac{1}{12}}$

(c) $(16)^{\frac{1}{6}}$

(d) $(12)^{\frac{1}{3}}$

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47. Which of the following given value is greater than $\sqrt[3]{12}$?

दिया गया कौन से मान $\sqrt[3]{12}$ से अधिक है?

(a) $\sqrt[12]{33214}$ (b) $\sqrt[5]{60}$

(c) $\sqrt[6]{121}$ (d) $\sqrt[9]{1500}$

48. The greatest number among 2^{72},5^{36}, 11^{24} and 3^{60} is

(a) 2^{72} (b) 5^{36} (c) 11^{24} (d) 3^{60}

49. The smallest among the numbers 7^{200}, 9^{150}, 6^{250} and 5^{300} is

7^{200}, 9^{150}, 6^{250} और 5^{300} निम्नलिखित में से कौन सी संख्या सबसे छोटी है?

(a) 7^{200} (b) 5^{300} (c) 9^{150} (d) 6^{250}

50. The smallest of $(\sqrt{8}+\sqrt{5})$, $(\sqrt{7}+\sqrt{6})$, $(\sqrt{10}+\sqrt{3})$, and $(\sqrt{11}+\sqrt{2})$ is:

a) $(\sqrt{8}+\sqrt{5})$ b) $(\sqrt{7}+\sqrt{6})$ c) $(\sqrt{10}+\sqrt{3})$ d) $(\sqrt{11}+\sqrt{2})$

51. The smallest of, $(\sqrt{23}+2\sqrt{3})$, $(\sqrt{31}+2)$, $(\sqrt{29}+\sqrt{6})$, and $(\sqrt{24}+\sqrt{11})$ is:

$(\sqrt{23}+2\sqrt{3})$, $(\sqrt{31}+2)$, $(\sqrt{29}+\sqrt{6})$, and $(\sqrt{24}+\sqrt{11})$में से कौन सी संख्या सबसे छोटी है?

52. Which is the greatest among $(\sqrt{19}+\sqrt{31})$, $(\sqrt{23}+3\sqrt{3})$, $(\sqrt{17}+\sqrt{33})$, 10?

$(\sqrt{19}+\sqrt{31})$, $(\sqrt{23}+3\sqrt{3})$, $(\sqrt{17}+\sqrt{33})$, 10 निम्नलिखित में से कौन सी संख्या **सबसे बड़ी है** ?

a) $(\sqrt{17}+\sqrt{33})$ b) $(\sqrt{23}+3\sqrt{3})$

c) 10 d) $(\sqrt{19}+\sqrt{31})$

53. The smallest of, $(\sqrt{69}+2\sqrt{7})$, $(\sqrt{61}+6)$, $(5\sqrt{3}+\sqrt{22})$, and $(\sqrt{58}+\sqrt{39})$ is:

a) $(\sqrt{61}+6)$ b) $(\sqrt{69}+2\sqrt{7})$ c) $(5\sqrt{3}+\sqrt{22})$ d) $(\sqrt{58}+\sqrt{39})$

54. Which is the greatest among $(\sqrt{24}+\sqrt{10})$, $(\sqrt{30}+\sqrt{8})$, $(\sqrt{15}+4)$, $(\sqrt{12}+\sqrt{20})$?

$(\sqrt{24}+\sqrt{10})$, $(\sqrt{30}+\sqrt{8})$, $(\sqrt{15}+4)$, $(\sqrt{12}+\sqrt{20})$ निम्नलिखित में से कौन सी संख्या **सबसे बड़ी है** ?

a) $\sqrt{24}+\sqrt{10}$) b) $(\sqrt{30}+\sqrt{8})$ c) $(\sqrt{15}+4)$ d) $(\sqrt{12}+\sqrt{20})$

55. Which of the following statement(s) is/are TRUE?

I. $\sqrt{11}+\sqrt{7}<\sqrt{10}+\sqrt{8}$.

II. $\sqrt{17}+\sqrt{11}>\sqrt{15}+\sqrt{13}$

निम्नलिखित में से कौन साहैं/से कथन सत्य है/?

I. $\sqrt{11}+\sqrt{7}<\sqrt{10}+\sqrt{8}$.

II. $\sqrt{17}+\sqrt{11}>\sqrt{15}+\sqrt{13}$

0ptions:

a) Only I/केवल I

b) Only II/केवल II

c) Both I and II/I तथा II दोनों

d) Neither I nor II/ न तो I न ही II

56. Which is the greatest among $(\sqrt{15}-\sqrt{10})$, $(\sqrt{19}-\sqrt{6})$, $(\sqrt{18}-\sqrt{7})$, $(\sqrt{17}-\sqrt{8})$?

$(\sqrt{15}-\sqrt{10})$, $(\sqrt{19}-\sqrt{6})$, $(\sqrt{18}-\sqrt{7})$, $(\sqrt{17}-\sqrt{8})$ निम्नलिखित में से कौन सी संख्या **सबसे बड़ी है** ?

a) $(\sqrt{15}-\sqrt{10})$ b) $\sqrt{19}-\sqrt{6}$)

c) $(\sqrt{18}-\sqrt{7})$ d) $(\sqrt{17}-\sqrt{8})$

57. Which is the greatest among ($\sqrt{17}$ -$\sqrt{14}$), ($\sqrt{19}$ -4), ($\sqrt{22}$ -$\sqrt{19}$), ($\sqrt{13}$ -$\sqrt{10}$)?

a) ($\sqrt{17}$ -$\sqrt{14}$) b) ($\sqrt{19}$ - 4) c) ($\sqrt{22}$-$\sqrt{19}$) d) ($\sqrt{13}$ -$\sqrt{10}$)

58. Which one among the following is the smallest?

निम्नलिखित में से कौन सी संख्या सबसे छोटी है?

(a) $\sqrt{201} - \sqrt{199}$ (b) $\sqrt{101} - \sqrt{99}$

(c) $\sqrt{301} - \sqrt{299}$ (d) $\sqrt{401} - \sqrt{399}$

59. If x = -0.5, then which of the following has the smallest value?

यदि x = -0.5, तो निम्न में से किसका मान सबसे छोटा है?

A) $2^{\frac{1}{x}}$

B) $\frac{1}{x}$

C) $1/x^2$

D) 2^x

E) $\frac{1}{\sqrt{-x}}$

60. Which of the following is TRUE?

I. $\sqrt[3]{11} > \sqrt{7} > \sqrt[4]{45}$

II. $\sqrt{7} > \sqrt[3]{11} > \sqrt[4]{45}$

III. $\sqrt{7} > \sqrt[4]{45} > \sqrt[3]{11}$

IV. $\sqrt[4]{45} > \sqrt{7} > \sqrt[3]{11}$

निम्नलिखित में से कौन सा सत्य है?

I. $\sqrt[3]{11} > \sqrt{7} > \sqrt[4]{45}$

II. $\sqrt{7} > \sqrt[3]{11} > \sqrt[4]{45}$

III. $\sqrt{7} > \sqrt[4]{45} > \sqrt[3]{11}$

IV. $\sqrt[4]{45} > \sqrt{7} > \sqrt[3]{11}$

Options:

a) Only I/केवल I

b) Only II/केवल II

c) Only III/केवल III

d) Only IV/केवल IV

61. Which of the following is TRUE?

निम्नलिखित में से कौन सा सत्य है?

I. $\frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt{5}}$

II. $\frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt{5}}$

III. $\frac{1}{\sqrt{5}} > \frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt[4]{29}}$

IV. $\frac{1}{\sqrt{5}} > \frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt[3]{12}}$

Options:

a) Only I/केवल I

b) Only II/केवल II

c) Only III/केवल III

d) Only IV/केवल IV

62. Find the approximate value of these?

a) $\sqrt{11}$ = 3.2857

b) $\sqrt{114}$ = 10.666

c) $\sqrt[3]{56}$ = 3.783

d) $\sqrt[4]{74}$ = 2.892

63. Find the value of x, if $16^{\sqrt{x}} + 63^{\sqrt{x}} = 65^{\sqrt{x}}$.

यदि $16^{\sqrt{x}} + 63^{\sqrt{x}} = 65^{\sqrt{x}}$ है, तो x का मान ज्ञात करें।

(a) 4 (b) 3

(c) 0 (d) 2

64. Find the value of x, if $12^{\sqrt{x}} + 16^{\sqrt{x}} + 21^{\sqrt{x}} = 29^{\sqrt{x}}$.

यदि $12^{\sqrt{x}} + 16^{\sqrt{x}} + 21^{\sqrt{x}} = 29^{\sqrt{x}}$ है, तो x का मान ज्ञात करें।

(a) 4 (b) 3

(c) 16 (d) 2

65. $\sqrt{423 \times 424 \times 425 \times 426 + 1}$ *is* ?

A) Rational number C) Irrational number

B) Rational integer D) None\

C)

66. If $(x-2a)(x-5a)(x-8a)(x-11a) + ka^4$ *is a perfect square then* k =?

यदि (x-2a) (x-5a) (x-8a) (x-11a) + ka^4 एक पूर्ण वर्ग है तो k= ?

(a) 49 (b) 81

(c) 64 (d) 72