8. Which of the following statement(s) is/are true?

निम्नलिखित में से कौन सा/से कथन सत्य है/हैं?

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

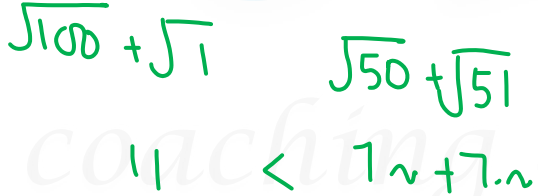
II. $\sqrt{17}+\sqrt{11} > \sqrt{15}+\sqrt{13}$

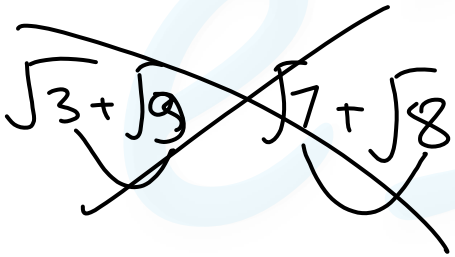
a) Only I

b) Only II

c) Both I and II

d) Neither I nor II





9. Which of the following statement(s) is/are TRUE?
निम्नलिखित में से कौन सा/से कथन सत्य है/हैं?

I. $\sqrt{5}+\sqrt{5} > \sqrt{7}+\sqrt{3}$

II. $\sqrt{6}+\sqrt{7} > \sqrt{8}+\sqrt{5}$

III. $\sqrt{3}+\sqrt{9} > \sqrt{6}+\sqrt{6}$

a) Only I

b) Only I and II

c) Only II and III

d) Only I and III

$2 = \sqrt{4}$

10. Arrange the following expressions in descending order:

P) $2\sqrt{2} + \sqrt{7} = \sqrt{8} + \sqrt{7}$ 56

Q) $3 + \sqrt{6} = \sqrt{9} + \sqrt{6}$ 54

R) $\sqrt{10} + \sqrt{5}$ 50

S) $\sqrt{13} + \sqrt{2}$ 26

निम्न को घटते क्रम में लिखिए:

P) $2\sqrt{2} + \sqrt{7}$

Q) $3 + \sqrt{6}$

R) $\sqrt{10} + \sqrt{5}$

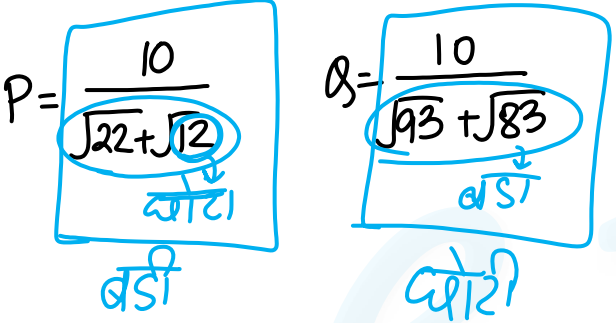
S) $\sqrt{13} + \sqrt{2}$

a) $R > Q > P > S$

b) $P > Q > S > R$

c) $P > Q > R > S$

d) $R > P > S > Q$



11. Arrange the following expressions in descending order:

P) $\sqrt{22} - \sqrt{12}$

Q) $\sqrt{93} - \sqrt{83}$

R) $\sqrt{15} - \sqrt{5}$

S) $\sqrt{37} - \sqrt{27}$

निम्न को अवरोही क्रम में लिखिए:

P) $\sqrt{22} - \sqrt{12}$

Q) $\sqrt{93} - \sqrt{83}$

R) $\sqrt{15} - \sqrt{5}$

S) $\sqrt{37} - \sqrt{27}$

a) $R > S > P > Q$

b) $S > P > R > Q$

c) $P > R > S > Q$

d) $R > P > S > Q$

12. Arrange the following expressions in descending order:

P) $\sqrt{17} - \sqrt{15}$

Q) $2\sqrt{3} - \sqrt{10}$ = $\sqrt{12} - \sqrt{10}$

R) $3 - \sqrt{7}$ = $\sqrt{9} - \sqrt{7}$

S) $\sqrt{19} - \sqrt{17}$

निम्न को अवरोही क्रम में लिखिए:

P) $\sqrt{17} - \sqrt{15}$

Q) $2\sqrt{3} - \sqrt{10}$

R) $3 - \sqrt{7}$

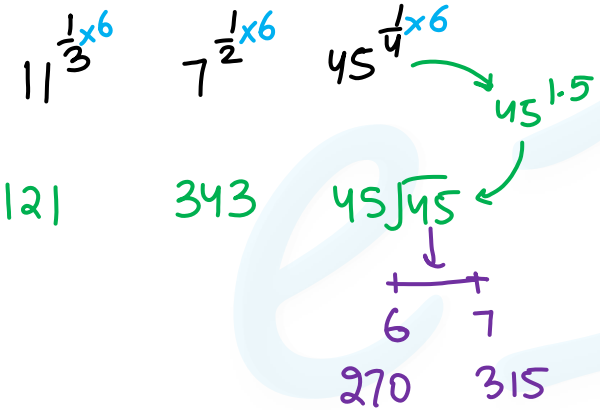
S) $\sqrt{19} - \sqrt{17}$

a) $R > Q > P > S$

b) $S > P > R > Q$

c) $P > R > S > Q$

d) $R > P > S > Q$



13. **Which of the following is True**
निम्नलिखित में से कोन सा सत्य है?

a) $\sqrt[3]{11} > \sqrt{7} > \sqrt[4]{45}$

b) $\sqrt{7} > \sqrt[3]{11} > \sqrt[4]{45}$

c) $\sqrt{7} > \sqrt[4]{45} > \sqrt[3]{11}$

d) $\sqrt[4]{45} > \sqrt{7} > \sqrt[3]{11}$

* Raise power to 6 only, because raising power to 12 will make it calculative

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$65^{\frac{1}{6}\times 12}$ $17^{\frac{1}{4}\times 12}$ $12^{\frac{1}{3}\times 12}$

65^{2} $17^{2}\ 1.5$ $12^{4}\ 2$

$17\overline{)17}$ 144

$4, 5$

$68, 85$

14. Which of the following statements(s) is/are true?
निम्नलिखित में से कथन/कथनों में से कोन सा/से सही है?

1. $(65)^{\frac{1}{6}} > (17)^{\frac{1}{4}} > (12)^{\frac{1}{3}}$
2. $(17)^{\frac{1}{4}} > (65)^{\frac{1}{6}} > (12)^{\frac{1}{3}}$
3. $(12)^{\frac{1}{3}} > (17)^{\frac{1}{4}} > (65)^{\frac{1}{6}}$

a) only 1
b) only 2
c) only 3
d) none of these

$12^{\frac{1}{3}\times 12}$ $29^{\frac{1}{4}\times 12}$ $5^{\frac{1}{2}\times 12}$

12^{4} 29^{3} 5^{6} 3 1.5 2

144 $29\sqrt{29}$ 125

5,6

145, 174

15. **Which of the following is true?**
निम्नलिखित में से कौन सा सत्य है?

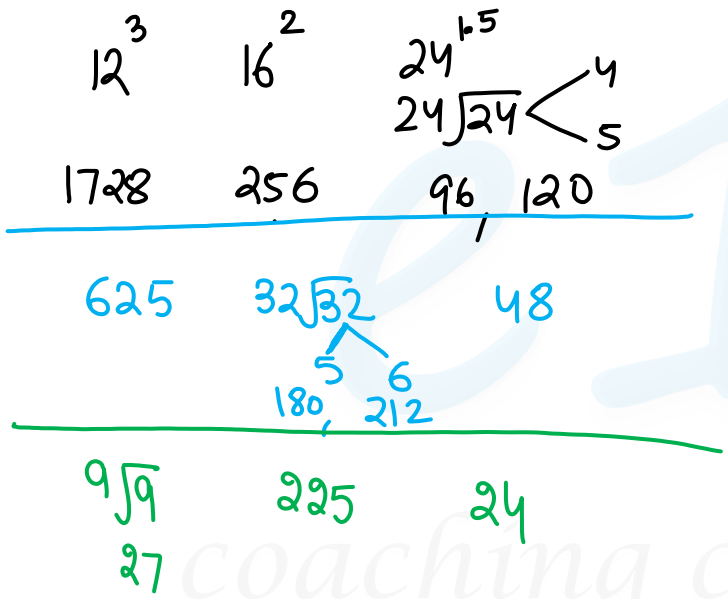
I. $\frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt{5}}$

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

a) Only I
b) Only II
c) Only III
d) Only IV



16. Which of the following statement is/are true?
निम्नलिखित में से कोन सा/से कथन सत्य है?

1. $\sqrt{12} > \sqrt[3]{16} > \sqrt[4]{24}$
2. $\sqrt[3]{25} > \sqrt[4]{32} > \sqrt[6]{48}$
3. $\sqrt[4]{9} > \sqrt[3]{15} > \sqrt[6]{24}$

a) only 1 and 2
b) only 1 and 3
c) only 1
d) all are true.

$\frac{2}{3\sqrt{5}}$ $\frac{3}{2\sqrt{5}}$

$4 < 9$

$9\sqrt{3}$ $4\sqrt{5}$

$243 > 80$

17. Which of the following statement(s) is /are true?
निम्नलिखित में से कौन सा/से कथन सत्य है/हैं?

I. $\frac{2}{3\sqrt{5}} < \frac{3}{2\sqrt{5}} < \frac{5}{4\sqrt{3}}$

II. $\frac{3}{2\sqrt{5}} < \frac{2}{3\sqrt{3}} < \frac{7}{4\sqrt{5}}$

a) Only I
b) Only II
c) Both I and II
d) Neither I nor II

18. Which of the following statement(s) is/are true?

निम्नलिखित में से कौन सा/से कथन सत्य है/हैं?

1 1.414 1.73 2 2.23 2 ~

I. $\sqrt{1}+\sqrt{2}+\sqrt{3}+\sqrt{4}+\sqrt{5}+\sqrt{6}>10$

II. $\sqrt{11}+\sqrt{12}+\sqrt{13}>3\sqrt{12}$

143

$\sqrt{12}+\sqrt{12}+\sqrt{12}$

144

a) Only I

b) Only II

c) Both I and II

d) Neither I nor II

$B = 2^0 + 2^1 + 2^2 + \ldots + 2^{30} + 2^{31}$ (×2, ×2)

$= 2^{32} - 1$

$S_n = \frac{a(r^n - 1)}{r - 1}$

$C = \frac{1(3^{16} - 1)}{3 - 1} = \frac{3^{16} - 1}{2}$

A C

2×2^{32} $\quad \frac{3^{16} - 1}{2}$

$2 \times (2^2)^{16} > \frac{3^{16} - 1}{2}$

19. If $A = 2^{32}$, $B = 2^{31} + 2^{30} + 2^{29} + \ldots + 2^0$ and $C = 3^{15} + 3^{14} + 3^{13} + \ldots + 3^0$, then which of the following option is TRUE?

यदि $A = 2^{32}$, $B = 2^{31} + 2^{30} + 2^{29} + \ldots + 2^0$ तथा $C = 3^{15} + 3^{14} + 3^{13} + \ldots + 3^0$ हैं, तो निम्नलिखित में से कौन सा विकल्प सत्य है ?

a) $C > B > A$
b) $C > A > B$
c) $A > B > C$
d) $A > C > B$

33^{3} ? 3^{33}

$33^{3} < (3^{11})^{3}$

$3^{27} > 3^{9}$

20. Which of the following statement(s) is/are true?
निम्नलिखित में से कौन सा/से कथन सत्य है/हैं?

1) $33^{3} > 3^{33}$

2) $3^{(3^{3})} > (3^{3})^{3}$

a) Only I

b) Only II

c) Both I and II

d) Neither I nor II

$P = 2^{29} \times 3^{21} \times 5^{8} = 16$

$Q = 2^{27} \times 3^{21} \times 5^{8} = 4$

$R = 2^{26} \times 3^{22} \times 5^{8} = 6$

$S = 2^{25} \times 3^{22} \times 5^{9} = 15$

21. If $P = 2^{29} \times 3^{21} \times 5^{8}, Q = 2^{27} \times 3^{21} \times 5^{8}, R = 2^{26} \times 3^{22} \times 5^{8}$ and $S = 2^{25} \times 3^{22} \times 5^{9}$, then which of the following is TRUE?

यदि $P = 2^{29} \times 3^{21} \times 5^{8}, Q = 2^{27} \times 3^{21} \times 5^{8}, R = 2^{26} \times 3^{22} \times 5^{8}$ और $S = 2^{25} \times 3^{22} \times 5^{9}$ हैं, तो निम्नलिखित में से कौन सा विकल्प सत्य है ?

a) $P > S > R > Q$

b) $S > P > R > Q$

c) $P > R > S > Q$

d) $S > P > Q > R$

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22. If x and y are two positive real numbers and $x^{\frac{1}{3}} = y^{\frac{1}{4}}$, then which of the following relation is true? (HW)

अगर x और y दो धनात्मक वास्तविक संख्याएं है और $x^{\frac{1}{3}} = y^{\frac{1}{4}}$ है तो निम्न में से कौनसा सही है?

a) $x^3 = y^4$ b) $x^3 = y$ c) $x = y^4$ d) $x^{20} = y^{15}$

$x^{\frac{1}{3}\times 12} = y^{\frac{1}{4}\times 12}$

$\Rightarrow x^4 = y^3$

Now, analyse options and see where the ratio of powers of x & y are 4:3.

$x^{4\times 5} = y^{3\times 5}$

$x^{20} = y^{15}$

23. If $\frac{1}{2^1}+\frac{1}{2^2}+\frac{1}{2^3}\ldots\ldots\ldots\ldots\ldots\ldots+\frac{1}{2^{10}}=\frac{1}{k}$, then what is the value of k?

यदि $\frac{1}{2^1}+\frac{1}{2^2}+\frac{1}{2^3}\ldots\ldots\ldots\ldots\ldots\ldots+\frac{1}{2^{10}}=\frac{1}{k}$ तो k का मान क्या है?

a) $\frac{512}{511}$ b) $\frac{1024}{1023}$ c) $\frac{511}{512}$ d) $\frac{1023}{1024}$

$S_n=\frac{a(r^n-1)}{r-1}$

$a=1$

$r=2$

$n=10$

$\frac{2^9+2^8+2^7+\ldots+1}{2^{10}}$

$=\frac{2^{10}-1}{2^{10}}=\frac{1023}{1024}$

24. Which is the smallest number among the following ?

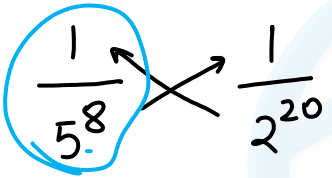
निम्न में से सबसे छोटी संख्या कौन – सी है ?

a) $\left[(5^{-2})^{-2}\right]^{-2} = 5^{-8} = \frac{1}{5^8}$

b) $\left[(5^{-2})^{2}\right]^{-2} = 5^{8}$

c) $\left[(2^{-5})^{-2}\right]^{-2} = 2^{-20} = \frac{1}{2^{20}}$

d) $\left[(2^{-5})^{2}\right]^{-2} = 2^{20}$



$32 > 25$

Rationalisation

(परिमेयकरण)

$$\frac{1}{\sqrt{3}+\sqrt{2}} \times \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}-\sqrt{2}} = \frac{\sqrt{3}-\sqrt{2}}{(\sqrt{3})^2-(\sqrt{2})^2} = \frac{\sqrt{3}-\sqrt{2}}{1}$$

$$\frac{1}{\sqrt{5}+\sqrt{2}} = \frac{\sqrt{5}-\sqrt{2}}{5-2=3}$$

$$\frac{7(\sqrt{3}+\sqrt{2})}{5} = \frac{7(3+2)}{5(\sqrt{3}-\sqrt{2})}$$

Concept:

$$\frac{1}{\sqrt{3}+\sqrt{2}} = \frac{\sqrt{3}-\sqrt{2}}{1}$$

$3-2=1$

$$\frac{4}{2+\sqrt{2}} = \frac{\cancel{4}^{2}(2-\sqrt{2})}{\cancel{2}}$$

$$\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}} = \frac{5-2\sqrt{6}}{1}$$

$$\frac{1}{\sqrt{13}+\sqrt{11}} = \frac{\sqrt{13}-\sqrt{11}}{2}$$

$$\frac{1}{7-4\sqrt{3}} = 7+4\sqrt{3}$$

$$\frac{1}{\sqrt{p}+\sqrt{q}} = \frac{\sqrt{p}-\sqrt{q}}{p-q}$$

$$\frac{1}{3+2\sqrt{2}} = 3-2\sqrt{2}$$

$$\frac{\sqrt{3}}{\sqrt{3}+\sqrt{2}} = \sqrt{3}(\sqrt{3}-\sqrt{2})$$

$$\frac{1}{\sqrt{a}+m\sqrt{b}} = \frac{\sqrt{a}-m\sqrt{b}}{a-m^2b}$$

1. If $x = 7 - 4\sqrt{3}$, then the value of $x + \frac{1}{x}$ is

अगर $x = 7 - 4\sqrt{3}$ है तो $x + \frac{1}{x}$=?

a) $3\sqrt{3}$ b) $8\sqrt{3}$ c) $4 + 8\sqrt{3}$ d) 14

$\frac{1}{x} = \frac{1}{7-4\sqrt{3}} = 7+4\sqrt{3}$

$x + \frac{1}{x} = 14$

$x - \frac{1}{x} = -8\sqrt{3}$

2. The value of $\frac{1}{\sqrt{3.25}+\sqrt{2.25}}+\frac{1}{\sqrt{4.25}+\sqrt{3.25}}+\frac{1}{\sqrt{5.25}+\sqrt{4.25}}+\frac{1}{\sqrt{6.25}+\sqrt{5.25}}$ is

$3.25-2.25=1$

a) 1.00 b) 1.25 c) 1.50 d) 2.25

$\sqrt{3.25}-\sqrt{2.25}+\sqrt{4.25}-\sqrt{3.25}+\sqrt{5.25}-\sqrt{4.25}$

$+\sqrt{6.25}-\sqrt{5.25}$

$= 2.5 - 1.5 = 1$

3. The value of $\frac{1}{4-\sqrt{15}} - \frac{1}{\sqrt{15}-\sqrt{14}} + \frac{1}{\sqrt{14}-\sqrt{13}} - \frac{1}{\sqrt{13}-\sqrt{12}} + \frac{1}{\sqrt{12}-\sqrt{11}} - \frac{1}{\sqrt{11}-\sqrt{10}} + \frac{1}{\sqrt{10}-3} - \frac{1}{3-\sqrt{8}}$ is:

$\frac{1}{4-\sqrt{15}} - \frac{1}{\sqrt{15}-\sqrt{14}} + \frac{1}{\sqrt{14}-\sqrt{13}} - \frac{1}{\sqrt{13}-\sqrt{12}} + \frac{1}{\sqrt{12}-\sqrt{11}} - \frac{1}{\sqrt{11}-\sqrt{10}} + \frac{1}{\sqrt{10}-3} - \frac{1}{3-\sqrt{8}}$ का मान ज्ञात करें|

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

$4+\sqrt{15} - \sqrt{15} - \sqrt{14} + \sqrt{14} + \sqrt{13} - - - - -$

$-3+\sqrt{8}$

$= 4-\sqrt{8} = 4-2\sqrt{2}$

$a+b=b+a$

4. $\frac{1}{\sqrt{3}+\sqrt{4}}+\frac{1}{\sqrt{4}+\sqrt{5}}+\frac{1}{\sqrt{5}+\sqrt{6}}+\ldots\ldots+\frac{1}{\sqrt{8}+\sqrt{9}}$

a) $\sqrt{3}$ b) $3\sqrt{3}$ c) $3-\sqrt{3}$ d) $5-\sqrt{3}$

$\frac{\sqrt{3}-\sqrt{4}}{-1}=\sqrt{4}-\sqrt{3}$

$\frac{1}{\sqrt{4}+\sqrt{3}}$

$\sqrt{4}-\sqrt{3}+\sqrt{5}-\sqrt{4}+\quad+\sqrt{9}-\sqrt{8}$

$=3-\sqrt{3}$

5. $\frac{1}{1+\sqrt{2}}+\frac{1}{\sqrt{2}+\sqrt{3}}+\frac{1}{\sqrt{3}+\sqrt{4}}+\frac{1}{\sqrt{4}+\sqrt{5}}+\frac{1}{\sqrt{5}+\sqrt{6}}+\frac{1}{\sqrt{6}+\sqrt{7}}+\frac{1}{\sqrt{7}+\sqrt{8}}+\frac{1}{\sqrt{8}+\sqrt{9}}$

a) 2 b) 0 c) 4 d) 1

$\frac{1}{\sqrt{2}+1}$ → $\sqrt{2}-1+\sqrt{3}-\sqrt{2}+\ .\ .\ +\sqrt{9}-\sqrt{8}$

$= 3-1 = 2$

6. If $\frac{1}{\sqrt{x}+\sqrt{x+1}}+\frac{1}{\sqrt{x+1}+\sqrt{x+2}}+\cdots+\frac{1}{\sqrt{x+63}+\sqrt{x+64}}=4$ which of the following is a possible value of x.

यदि $\frac{1}{\sqrt{x}+\sqrt{x+1}}+\frac{1}{\sqrt{x+1}+\sqrt{x+2}}+\cdots+\frac{1}{\sqrt{x+63}+\sqrt{x+64}}=4$ है, निम्नलिखित में से कौन – सा x का संभावित मान है।

a) 64 b) 36 c) 16 d) 256

$$\frac{1}{\sqrt{x+1}+\sqrt{x}}\rightarrow\frac{\sqrt{x+1}-\sqrt{x}}{x+1-x}+\sqrt{x+2}-\sqrt{x+1}+\ldots+\sqrt{x+64}-\sqrt{x+63}=4$$

$$=\sqrt{x+64}-\sqrt{x}=4$$

$10-6$ Using options

7. The simplified form of $\frac{2}{\sqrt{7}+\sqrt{5}}+\frac{7}{\sqrt{12}-\sqrt{5}}-\frac{5}{\sqrt{12}-\sqrt{7}}$ is

$\frac{2}{\sqrt{7}+\sqrt{5}}+\frac{7}{\sqrt{12}-\sqrt{5}}-\frac{5}{\sqrt{12}-\sqrt{7}}$ को सरल करिएँ:

a) 5 b) 2 c) 1 d) 0

$$\frac{2(\sqrt{7}-\sqrt{5})}{2}+\sqrt{12}+\sqrt{5}-\sqrt{12}-\sqrt{7}$$

$$= 0$$

8. The value of $\left\{\frac{3\sqrt{2}}{\sqrt{3}+\sqrt{6}}-\frac{4\sqrt{3}}{\sqrt{6}+\sqrt{2}}+\frac{\sqrt{6}}{\sqrt{2}+\sqrt{3}}\right\}$ is

a) $\sqrt{2}$ b) 0 c) $\sqrt{3}$ d) $\sqrt{6}$

$\sqrt{6}+\sqrt{3}$ $\sqrt{3}+\sqrt{2}$

$$\sqrt{2}(\sqrt{6}-\sqrt{3})-\sqrt{3}(\sqrt{6}-\sqrt{2})+\sqrt{6}(\sqrt{3}-\sqrt{2})$$

$$=\sqrt{12}-\sqrt{6}-\sqrt{18}+\sqrt{6}+\sqrt{18}-\sqrt{12}$$

$$=0$$

9. What is the value of $(2 + \sqrt{2}) + \left(\frac{1}{(2+\sqrt{2})}\right) + \left(\frac{1}{(2-\sqrt{2})}\right) + (2 - \sqrt{2})$?

$(2 + \sqrt{2}) + \left(\frac{1}{(2+\sqrt{2})}\right) + \left(\frac{1}{(2-\sqrt{2})}\right) + (2 - \sqrt{2})$ का मान क्या है ?

a)2 b) 4 c) 8 d) 6

$$= 2+\sqrt{2} + \frac{2-\sqrt{2}}{2} + \frac{2+\sqrt{2}}{2} + 2-\sqrt{2}$$

$$= 4 + 2 = 6$$

10. $\frac{\sqrt{5}}{\sqrt{3}+\sqrt{2}} - \frac{3\sqrt{3}}{\sqrt{5}+\sqrt{2}} + \frac{2\sqrt{2}}{\sqrt{5}+\sqrt{3}}$ is equal to

a) 0 b) $2\sqrt{15}$ c) $2\sqrt{10}$ d) $2\sqrt{6}$

$$\sqrt{15} - \sqrt{10} - \sqrt{3}(\sqrt{5}-\sqrt{2}) + \sqrt{2}(\sqrt{5}-\sqrt{3})$$

$$= \sqrt{15} - \sqrt{10} - \sqrt{15} + \sqrt{6} + \sqrt{10} - \sqrt{6}$$

$$= 0$$

11. The value of $\frac{2+\sqrt{3}}{2-\sqrt{3}}$ is :

$= \frac{2+\sqrt{3}}{2-\sqrt{3}}$ का मान है :

a) 11.732 b) 13.928

c) 12.928 d) 13.925

$= 7 + 4\sqrt{3}$

$\sqrt{3} = 1.732$

$= 7 + 6.928$

$= 13.928$

12. If $\frac{\sqrt{7}-2}{\sqrt{7}+2} = a\sqrt{7} + b$, then the value of $b - a^2$ is

अगर $\frac{\sqrt{7}-2}{\sqrt{7}+2} = a\sqrt{7} + b$ है तो $b - a^2$ का मान:

a) $\frac{17}{9}$ b) $\frac{17}{3}$ c) $\frac{49}{9}$ d) $-\frac{4\sqrt{7}}{3}$

$\frac{11}{3} - \frac{4}{3}\sqrt{7} = \frac{11-4\sqrt{7}}{3} = a\sqrt{7} + b$

$-\frac{4}{3}$ $\frac{11}{3}$

$\frac{11}{3} - \frac{16}{9}$

$= \frac{33-16}{9} = \frac{17}{9}$

13. If $x = \frac{\sqrt{2}+1}{\sqrt{2}-1}$ and $x - y = 4\sqrt{2}$, then the value of $(x^2 + y^2)$ is:

(HW) यदि $x = \frac{\sqrt{2}+1}{\sqrt{2}-1}$ और $x - y = 4\sqrt{2}$ है , तो $(x^2 + y^2)$ का मान है :

a) 30 b) 32 c) 34 d) 38

on rationalisation

$x = \frac{3}{a} + \frac{2\sqrt{2}}{b}$

$y = x - 4\sqrt{2}$

$y = 3 + 2\sqrt{2} - 4\sqrt{2}$

$y = \frac{3}{a} - \frac{2\sqrt{2}}{b}$

$2(9+8)$

14. If $x = \sqrt[3]{2+\sqrt{3}}$ then the value of $x^3 + \frac{1}{x^3} = ?$

HW अगर $x = \sqrt[3]{2+\sqrt{3}}$ है तो $x^3 + \frac{1}{x^3} = ?$

a) 8 b) 9 c) 2 d) 4

$x^3 = 2 + \sqrt{3}$

$\frac{1}{x^3} = 2 - \sqrt{3}$

$2 + \sqrt{3} + 2 - \sqrt{3}$

$= 4$

$(4+3\sqrt{3})(7-4\sqrt{3})$

$= 28 - 16\sqrt{3} + 21\sqrt{3} - 36$

$= -8 + 5\sqrt{3}$

15. (HW) $\frac{4+3\sqrt{3}}{7+4\sqrt{3}}$ is

a) $5\sqrt{3} - 8$

c) $5\sqrt{3} + 8$

c) $8\sqrt{3} + 5$

d) $8\sqrt{3} - 5$