

KGS



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By :- P.K Sir

SIMPLIFICATION



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17.

If $(x + 7957 \times 7965)$ is a perfect square, then find the value of x ?

(a) 1

~~(b) 16~~

(c) 9

(d) 25

(F)

$$\left(\frac{8}{2}\right)^2 = 4^2 = 16$$

$$\textcircled{1} \quad 3 \times 4 \longrightarrow 12$$

$$\textcircled{i} \quad 12 - 3 = 9$$

$$\textcircled{ii} \quad 12 + 4 = 16$$

$$\textcircled{2} \quad 5 \times 6 \longrightarrow 30$$

$$\textcircled{i} \quad 30 - 5 = 25$$

$$\textcircled{ii} \quad 30 + 6 = 36$$

$$\textcircled{3} \quad 8 \times 9 \longrightarrow 72$$

$$\textcircled{i} \quad 72 - 8 = 64$$

$$\textcircled{ii} \quad 72 + 9 = 81$$

$$\textcircled{4} \quad 11 \times 12 \longrightarrow 132$$

$$\textcircled{i} \quad 132 - 11 = 121$$

$$\textcircled{ii} \quad 132 + 12 = 144$$

$123 \times \textcircled{124} + k$ एक पूर्ण वर्ग है तो k का मान क्या होगा।

\swarrow
124 Ans.

$495 \times 494 - k$ एक पूर्ण वर्ग संख्या है तो k का मान ज्ञात करें।

$$\textcircled{k = 494}$$

$$a^2 - b^2 = (a+b)(a-b)$$

$$\textcircled{i} (3+1)(3^2+1)(3^4+1) \rightarrow \frac{3^8-1}{3-1} = \frac{3^8-1}{2}$$

$$\frac{(3-1) \times (3+1)(3^2+1)(3^4+1)}{(3-1)}$$

$$= \frac{(3^2-1)(3^2+1)(3^4+1)}{(3-1)}$$

$$= \frac{(3^4-1)(3^4+1)}{2} = \frac{3^8-1}{2}$$

$$\textcircled{ii} (3+1)(3^2+1)(3^4+1)(3^8+1) \rightarrow \frac{3^{16}-1}{3-1} = \frac{3^{16}-1}{2}$$

$$\textcircled{iii} (3+1)(3^2+1)(3^4+1)(3^8+1)(3^{16}+1) \Rightarrow \frac{3^{32}-1}{3-1} = \frac{3^{32}-1}{2}$$

$$\textcircled{iv} (3+1)(3^2+1)(3^4+1) \dots \times (3^{32}+1) = \frac{3^{64}-1}{3-1}$$

$$= \frac{3^{64}-1}{2}$$

$$\textcircled{v} (4+1)(4^2+1)(4^3+1) \dots \times (4^{16}+1) \Rightarrow$$

$$\frac{4^{32}-1}{4-1} = \frac{4^{32}-1}{3}$$

$$\textcircled{\text{VI}} (5+1)(5^2+1)(5^4+1)\dots\dots\dots \times (5^{64}+1) = \frac{5^{128}-1}{5-1} = \frac{5^{128}-1}{4}$$

$$\# (2^1+1)(2^2+1)(2^4+1)(2^8+1)\dots\dots\dots \times (2^{128}+1) \Rightarrow \frac{2^{256}-1}{2-1} = \frac{2^{256}-1}{1} = 2^{256}-1 \text{ Ans.}$$

18.

$$(3+1)(3^2+1)(3^4+1)(3^8+1)(3^{16}+1) = ? \quad \frac{3^{32}-1}{3-1} = \frac{3^{32}-1}{2}$$

~~(a)~~

$$\frac{3^{32}-1}{2}$$

(b)

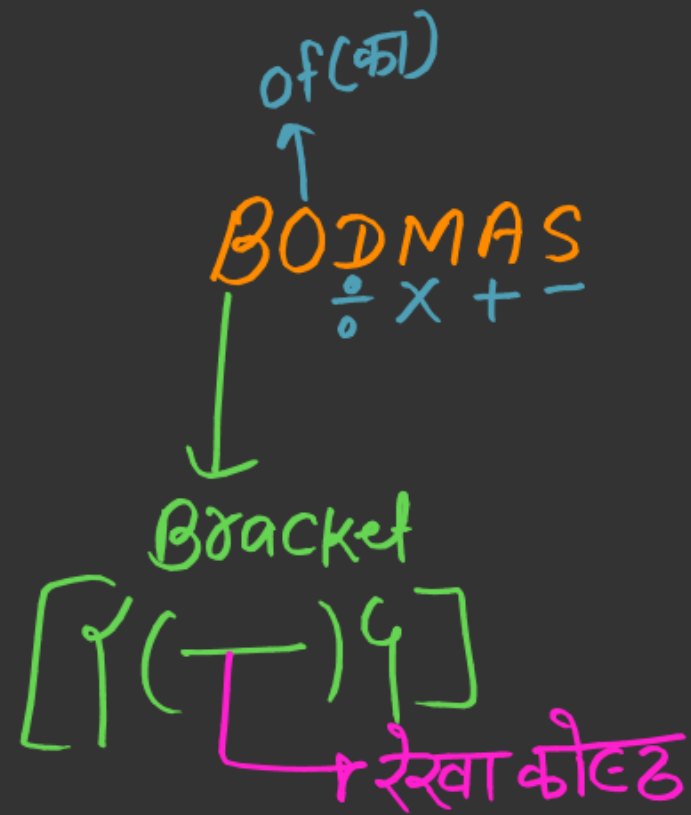
$$\frac{3^{16}-1}{2}$$

(c)

$$\frac{3^{32}-1}{2}$$

(d)

$$\frac{3^{128}-1}{2}$$



① $3 \div 3 \div 3 \div 3$

~~3~~ $\times \frac{1}{3} \times \frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$ Ans

② $120 \div 6 \text{ of } 5 \times 3 + 5$

$120 \div 30 \times 3 + 5$

$4 \times 3 + 5$

$12 + 5 = 17$

20.

$24 \times 2 \div 12 + 12 \div 6$ of $2 \div (15 \div 8 \times 4)$ of $(28 \div 7$ of $5)$ is :

$24 \times 2 \div 12 + 12 \div 6$ का $2 \div (15 \div 8 \times 4)$ का $(28 \div 7$ of $5)$ का मान क्या है ?

(a) $4\frac{2}{3}$

(b) $4\frac{8}{75}$

(c) $4\frac{32}{75}$

(d) $4\frac{1}{6}$

H.W/R.W



21.

The simplified value of $3 \times 6 \div 4$ of $6 - 6 \div 2 \times (4 - 6) + 4 - 2 \times 3 \div 6$ of $\frac{1}{3}$ is:

$3 \times 6 \div 4$ of $6 - 6 \div 2 \times (4 - 6) + 4 - 2 \times 3 \div 6$ का $\frac{1}{3}$ का सरलीकृत मान है :

H.W/R.W



22. The value of $\frac{7 + 8 \times 8 \div 8 \text{ of } 8 + 8 \div 8 \times 4 \text{ of } 4}{4 \div 4 \text{ of } 4 + 4 \times 4 \div 4 - 4 \div 4 \text{ of } 2}$ is :

$$\frac{7 + 8 \times 8 \div 8 \text{ of } 8 + 8 \div 8 \times 4 \text{ of } 4}{4 \div 4 \text{ of } 4 + 4 \times 4 \div 4 - 4 \div 4 \text{ of } 2} \text{ का मान है :}$$

(a) 4.6

$$\frac{8 \times 8 \div 64}{1}$$

(b)

$$8.7 \frac{8 \div 8 \times 16}{1}$$

(c)

7.8

~~(d)~~ 6.4

$$7 \oplus 8 \times 8 \div 8 \text{ of } 8 \oplus 8 \div 8 \times 4 \text{ of } 4$$

$$4 \div 4 \text{ of } 4 \oplus 4 \times 4 \div 4 \ominus 4 \div 4 \text{ of } 2$$

$$\frac{4 \div 16}{\frac{1}{4}}$$

$$4$$

$$\frac{1}{2}$$

$$\frac{1}{4} + 4 - \frac{1}{2} = \frac{1+16-2}{4} = \frac{15}{4}$$

Lcm and Hc

$$= \frac{\frac{8}{24} \times 4}{\frac{15}{5}} = \frac{32}{5} = 6.4$$