120. *The value of* $\dfrac{5.169\times5.169\times5.169-64\times(0.888)^3}{(5.169)^2+(3.552)^2+4(0.888)(5.169)}$?

$\dfrac{5.169\times5.169\times5.169-(4\times0.888)^3}{(5.169)^2+(3.552)^2+4(0.888)(5.169)}$ **का मान है?**

[A] 1.323

[B] 1.617

[C] 1.625

[D] 1.317

$= 5.169 - 3.552$

$= 1.617$

121. The value of $\frac{(253)^3+(247)^3}{25.3\times25.3-624.91+24.7\times24.7}$ is 50×10^k, where the value of k is:

$\frac{(253)^3+(247)^3}{25.3\times25.3-624.91+24.7\times24.7}$ का मान 50×10^k है, जहां k का मान है:

[A] 4

[B] 3

[C] 2

[D] −3

(CGL MAINS 2018)

$100 \times 500 = 5 \times 10^k$

$10^3 = 10^k$

122. **The value of** $\left[\frac{83.7\times83.7+16.3\times16.3-83.7\times16.3}{0.837\times0.837\times0.837+0.163\times0.163\times0.163}\right]\div 333\frac{1}{3}$ **is?**

$\left[\frac{83.7\times83.7+16.3\times16.3-83.7\times16.3}{0.837\times0.837\times0.837+0.163\times0.163\times0.163}\right]\div 333\frac{1}{3}$ का मान क्या है?

[A] 25 [B] 30

[C] 33 [D] 0.3

$333+\frac{1}{3}$

$\frac{a^2+b^2-ab}{a^3+b^3}=\frac{1}{a+b}$

$=b\times\frac{1}{b}\times\frac{3}{1000}\times1000$

$=b\times3$

123. If the value of $\frac{52.5\times52.5-2493.75+47.5\times47.5}{525^3+475^3}=10^{-k}$ Then find the value of k =?

यदि $\frac{52.5\times52.5-2493.75+47.5\times47.5}{525^3+475^3}=10^{-k}$ फिर k का मान ज्ञात कीजिए?

[A] 3
[B] 4
[C] 5
[D] 6

$\frac{1}{a+b}$

$10^{-2}\times\frac{1}{10^3}$

$10^{-2}\times10^{-3}$

$10^{-5}=10^{-k}$

124. $A = \frac{0.216+0.008}{0.36+0.04-0.12}$ and $B = \frac{0.729-0.027}{0.81+0.09+0.27}$, then find the value of (A^2+B^2)?

[A] 0.8

[B] 1

[C] 2.2

[D] 1.44

$\cdot 9^3 - \cdot 3^3$

$\cdot 6^3 + \cdot 2^3$

$= \cdot 64 + \cdot 36$

$= 1$

$A = \cdot 6 + \cdot 2 = \cdot 8$

$B = \cdot 6$

125. If $x = \sqrt[3]{65}$ and $y = 4$, find $x + y - \frac{1}{x^2+xy+y^2}$?

यदि $x = \sqrt[3]{65}$, $y = 4$ है, तो $x + y - \frac{1}{x^2+xy+y^2}$ ज्ञात कीजिये?

[A] 0

[B] 8

[C] -8

[D] 2

$(x+y) - (x-y)$

$= 2y$

$= 8$

#

126. Simplify $\sqrt{\frac{2021^3-2019^3-2}{6}}$?

$\sqrt{\frac{2021^3-2019^3-2}{6}}$ **सरल करें**

[A] 2022 $\quad \frac{x+x(x+2)}{x}$ **[B] 2021**

[C] 2020 **[D] 2019**

$$\sqrt{\frac{(x+2)^3-x^3-2}{6}} = \sqrt{\frac{x^3+8+6x(x+2)-x^3-2}{6}}$$

$$= \sqrt{1+x^2+2x} = x+1 = 2020$$

127. $\dfrac{(2002)^3-(1002)^3-(1000)^3}{3\times1002\times1000} = ?$

[A] 2003 [B] 2001

[C] 2002 [D] 2004

$2002 = a+b$

$\dfrac{(a+b)^3-a^3-b^3}{3ab} = \dfrac{3ab(a+b)}{3ab}$

$= 2002$

ALGEBRA BASED SIMPLIFICATION FORMULAS

- $a^3 + b^3 + c^3 - 3abc = (a+ b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

- $\dfrac{a^3 + b^3 + c^3 - 3abc}{(a^2 + b^2 + c^2 - ab - bc - ca)} = a + b + c$

128. $\dfrac{\overbrace{\frac{1}{3}\cdot\frac{1}{3}\cdot\frac{1}{3}}+\overbrace{\frac{1}{4}\cdot\frac{1}{4}\cdot\frac{1}{4}}-3\overbrace{\frac{1}{3}\cdot\frac{1}{4}\cdot\frac{1}{5}}+\overbrace{\frac{1}{5}\cdot\frac{1}{5}\cdot\frac{1}{5}}}{\frac{1}{3}\cdot\frac{1}{3}+\frac{1}{4}\cdot\frac{1}{4}+\frac{1}{5}\cdot\frac{1}{5}-\left(\frac{1}{3}\cdot\frac{1}{4}+\frac{1}{4}\cdot\frac{1}{5}+\frac{1}{5}\cdot\frac{1}{3}\right)}=?$

[A] $\frac{2}{3}$

[B] $\frac{3}{4}$

[C] $\frac{47}{60}$ ✓

[D] $\frac{49}{60}$

$= \frac{1}{3}+\frac{1}{4}+\frac{1}{5} = \frac{20+15+12}{60}$

129. $\dfrac{(1.2)^3+(0.8)^3+(0.7)^3-2.016}{1.35[(1.2)^2+(0.8)^2+(0.7)^2-0.96-0.84-0.56]} = ?$

[A] 1/4 **[B]** 1/2

[C] 1 **[D]** 2

$= \dfrac{2.70}{1.35} = 2$

130. Simplify the expression $\frac{(2.3)^3+(15.9)^3+(3.7)^3-3\times2.3\times15.9\times3.7}{(2.3)^2+(15.9)^2+(3.7)^2-2.3\times15.9-15.9\times3.7-3.7\times2.3}$?

व्यंजक $\frac{(2.3)^3+(15.9)^3+(3.7)^3-3\times2.3\times15.9\times3.7}{(2.3)^2+(15.9)^2+(3.7)^2-2.3\times15.9-15.9\times3.7-3.7\times2.3}$ **को सरल कीजिए?**

[SSC SELECTION POST (PHASE XII) 2024]

[A] 17.6 **[B] 14.5**

[C] 20.9 **[D] 21.9** ✓

$2.3+15.9+3.7$

$=21.9$

131. The value of $\dfrac{10^{-3} \times [(2.5)^3+(4.7)^3+(2.8)^3-7.5\times4.7\times2.8]}{[(25)^2+(47)^2+(28)^2-25\times47-47\times28-28\times25)]}$ **=?**

[A] 0.1 ✓

[B] 0.001

[C] 1

[D] 0.01

$$= 10^{-3} \times 100$$

$$= \frac{1}{10} = .1$$

132. **Simplify the following expression/निम्नलिखित व्यंजक को हल कीजिए।**

$$\frac{(2.01\times2.01\times2.01)+(39.75\times39.75\times39.75)+(28.24\times28.24\times28.24)-3(2.01\times39.75\times28.24)}{(2.01\times2.01)+(39.75\times39.75)+(28.24\times28.24)-(2.01\times39.75)-(39.75\times28.24)-(28.24\times2.01)}$$

[A] 140
[B] 50
[C] 70
[D] 100

$= 2.01 + 39.75 + 28.24$

133. Simplify the given expression./दिए गए व्यंजक को सरल कीजिए।

$$\frac{(80\times80\times80)+(70\times70\times70)+(50\times50\times50)-840000}{6400+4900+2500-5600-3500-4000}$$

SSC CHSL 2023 PRE

[A] 100
[B] 300
[C] 200
[D] 400

8+7+5