



If, $x + \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 - 2$ ✓

If, $x - \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 + 2$ ✓



$$\left(x - \frac{1}{x}\right)^2 = k^2$$

$$x^2 + \frac{1}{x^2} - \cancel{2 \times x \times \frac{1}{x}} = k^2$$

$$x^2 + \frac{1}{x^2} = k^2 + 2$$



If, $x + \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 - 2$

If, $x - \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 + 2$



If, $x + \frac{1}{x} = 9$

$x^2 + \frac{1}{x^2} = 9^2 - 2 = 79$

ह, $y + \frac{1}{y} = 16$

तो $y^2 + \frac{1}{y^2} = 16^2 - 2 = 254$



If, $x + \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 - 2$

If, $x - \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 + 2$



If, $z^7 + \frac{1}{z^7} = 25$

$z^{14} + \frac{1}{z^{14}} = 25^2 - 2 = 623$

a $\frac{1}{a}$

$\frac{a^3}{5} + \frac{5}{a^3} = 12$

तो $\frac{a^6}{25} + \frac{25}{a^6} = 12^2 - 2 = 142$



If, $x + \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 - 2$

If, $x - \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 + 2$



If, $y^3 + \frac{1}{y^3} = 10$

$y^6 + \frac{1}{y^6} = 10^2 - 2 = 98$

$x^{.34} + \frac{1}{x^{.34}} = 15$

तो $x^{.68} + \frac{1}{x^{.68}} = 15^2 - 2 = 223$

$$\text{if, } \begin{aligned} x &= 11 + 2\sqrt{30} \\ + \quad \frac{1}{x} &= 11 - 2\sqrt{30} \end{aligned}$$

$$x + \frac{1}{x} = 22$$

$$\text{तो } x^2 + \frac{1}{x^2} = 22^2 - 2 \\ = 482$$

$$\text{if, } \frac{x^8}{n} + \frac{n}{x^8} = 8$$

$$\text{तो } \frac{x^{16}}{n^2} + \frac{n^2}{x^{16}} = 8^2 - 2 = 62$$

If, $x + \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 - 2$

If, $x - \frac{1}{x} = k$ तो $x^2 + \frac{1}{x^2} = k^2 + 2$

if, $2z + \frac{1}{(2z+5)} = 9$

$(2z+5) + \frac{1}{(2z+5)} = 14$

तो $(2z+5)^2 + \frac{1}{(2z+5)^2} = 14^2 - 2 = 194$



$\frac{y^5}{\sqrt{3}} + \frac{\sqrt{3}}{y^5} = 7\sqrt{6}$

तो $\frac{y^{10}}{3} + \frac{3}{y^{10}} = (7\sqrt{6})^2 - 2$
 $= 292$



If, $x \oplus \frac{1}{x} = \sqrt{7}$

$$x^2 + \frac{1}{x^2} = \sqrt{7}^2 - 2 = 5$$

$$x^4 + \frac{1}{x^4} = 5^2 - 2 = 23$$

$$x^8 + \frac{1}{x^8} = 23^2 - 2 = 527$$

If, $x \ominus \frac{1}{x} = 4$

$$x^2 \oplus \frac{1}{x^2} = 4^2 + 2 = 18$$

तो, $x^4 \oplus \frac{1}{x^4} = 18^2 - 2 = 322$ ✓

if, $x + \frac{1}{x} = k$

$$x - k = -\frac{1}{x}$$

$$x \cdot (x - k) = -1$$

$$x^2 - kx = -1$$

$$x^2 - kx + 1 = 0$$

if, $x - \frac{1}{x} = k$

$$x - k = \frac{1}{x}$$

$$x \cdot (x - k) = +1$$

$$x^2 - kx = +1$$

$$x^2 - kx - 1 = 0$$



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59. If $\frac{2x}{5x^2-7x+5} = \frac{1}{3}$, then $x^2 + \frac{1}{x^2} = ?$

यदि $\frac{2x}{5x^2-7x+5} = \frac{1}{3}$ है, तो $x^2 + \frac{1}{x^2} = ?$

[A] $\frac{219}{25}$

[C] $\frac{69}{25}$

[B] $\frac{119}{25}$

[D] $\frac{138}{25}$

$$5x^2 + 5 = 13x$$

$$\frac{x^2+1}{x} = \frac{13}{5}$$

$$x + \frac{1}{x} = \frac{13}{5}$$

$$\begin{aligned} & \frac{169}{25} - 2 \\ &= \frac{119}{25} \end{aligned}$$



#

60. If $x = 4 + \sqrt{15}$, what is the value of $\left(x^2 + \frac{1}{x^2}\right)$?

यदि $x = 4 + \sqrt{15}$ है, तो $\left(x^2 + \frac{1}{x^2}\right)$ का मान ज्ञात कीजिए।

[A] 48

[B] 54

[C] 72

☒ [D] 62

$$x = 4 + \sqrt{15}$$

$$\frac{1}{x} = 4 - \sqrt{15}$$

$$x + \frac{1}{x} = 8$$

61. If $P = 7 + 4\sqrt{3}$ and $PQ = 1$, then what is the value of $\left(\frac{1}{P^2}\right) + \left(\frac{1}{Q^2}\right)$?

यदि $P = 7 + 4\sqrt{3}$ तथा $PQ = 1$ है तो $\left(\frac{1}{P^2}\right) + \left(\frac{1}{Q^2}\right)$ का मान क्या है?

[A] 148

[B] 189

☒ [C] 194

[D] 204

$$\frac{1}{P^2} + P^2 = 14^2 - 2$$

$$P = 7 + 4\sqrt{3}$$

$$P = \frac{1}{Q}$$

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

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

62. If $x^{2019} = 11 - 2\sqrt{30}$, then $x^{4038} + \frac{1}{x^{4038}} = ?$

यदि $x^{2019} = 11 - 2\sqrt{30}$ हो तो, $x^{4038} + \frac{1}{x^{4038}} = ?$

[A] 443

[B] 439

[C] 486

[D] 482

$$x = 11 - 2\sqrt{30}$$

$$\frac{1}{x} = 11 + 2\sqrt{30}$$

$$x + \frac{1}{x} = 22$$

तो $x^2 + \frac{1}{x^2} = 22^2 - 2$

63. If $x = (7 + 3\sqrt{5})$, then find $x^2 + \frac{1}{x^2}$?

यदि $x = (7 + 3\sqrt{5})$, तो $x^2 + \frac{1}{x^2}$ ज्ञात करें?

[A] $\frac{580 + 315\sqrt{5}}{8}$

[C] $\frac{799 + 315\sqrt{5}}{12}$

[B] $\frac{799 + 328\sqrt{5}}{8}$

[D] $\frac{799 + 315\sqrt{5}}{8}$

$x = (7 + 3\sqrt{5})$
 $\frac{1}{x} = \frac{7 - 3\sqrt{5}}{4}$

$x + \frac{1}{x} = \frac{35 + 9\sqrt{5}}{4}$

$\frac{1295 + 405 + 63\sqrt{5}}{16} - 2$

$\frac{1630 + 63\sqrt{5} - 32}{16}$

$= \frac{1598 + 63\sqrt{5}}{16}$

64. If, $p = \frac{\sqrt{5}-2}{\sqrt{5}+2}$ and $q = \frac{\sqrt{5}+2}{\sqrt{5}-2}$, then what is $\left(\frac{p}{q} + \frac{q}{p}\right)$ equal to?

यदि, $p = \frac{\sqrt{5}-2}{\sqrt{5}+2}$ और $\frac{1}{p} = \frac{\sqrt{5}+2}{\sqrt{5}-2}$ है, तो $\left(\frac{p}{q} + \frac{q}{p}\right)$ किसके बराबर है?

(UPSC CDS-II 2025)

[A] 18

[B] $8\sqrt{5}$

[C] 322

[D] $72\sqrt{5}$

$$\frac{p^2 + q^2}{pq} = p^2 + q^2$$

$$= p^2 + \frac{1}{p^2} \\ = 18^2 - 2$$

$$p \cdot q = 1 \Rightarrow q = \frac{1}{p}$$

$$p + \frac{1}{p} = \frac{\sqrt{5}-2}{\sqrt{5}+2} + \frac{\sqrt{5}+2}{\sqrt{5}-2} = \frac{2 \times 9}{1} = 18$$

64. If, $p = \frac{\sqrt{5}-2}{\sqrt{5}+2}$ and $q = \frac{\sqrt{5}+2}{\sqrt{5}-2}$, then what is $\left(\frac{p}{q} + \frac{q}{p}\right)$ equal to?

यदि, $p = \frac{\sqrt{5}-2}{\sqrt{5}+2}$ और $\frac{1}{p} = \frac{\sqrt{5}+2}{\sqrt{5}-2}$ है, तो $\left(\frac{p}{q} + \frac{q}{p}\right)$ किसके बराबर है?

(UPSC CDS-II 2025)

[A] ~~18~~

[C] 322

[B] ~~$8\sqrt{5}$~~

[D] ~~$72\sqrt{5}$~~

$$p^2 + \frac{1}{p^2} = k^2 - 2$$

$$p \cdot q = 1 \Rightarrow q = \frac{1}{p}$$

$$p + \frac{1}{p} = k$$

65. $a = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$ and $b = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ value of $a^2 + b^2 - ab$?

यदि $a = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$ और $\frac{1}{a} = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ है, तो $a^2 + b^2 - ab$ का मान क्या है?

[A] 97

[C] $\times (4\sqrt{6}) + 1$

[B] $\times (2\sqrt{3}) + 2$

[D] $\times 98$

$$b = \frac{1}{a} \Rightarrow ab = 1$$

$$a + \frac{1}{a} = \frac{2 \times (3+2)}{(3-2)} = 10$$

$$\begin{aligned} & \left(a^2 + \frac{1}{a^2} \right) - 1 \\ &= (10^2 - 2) - 1 \\ &= 97 \end{aligned}$$

66. If $a = \frac{3+\sqrt{5}}{3-\sqrt{5}}$ and $b = \frac{3-\sqrt{5}}{3+\sqrt{5}}$, find the value of $a^2 + b^2 + 3ab$.

यदि $a = \frac{3+\sqrt{5}}{3-\sqrt{5}}$ और $b = \frac{3-\sqrt{5}}{3+\sqrt{5}}$ है, तो $a^2 + b^2 + 3ab$ का मान ज्ञात कीजिए।

RRB NTPC Graduate Level CBT-1 2025

[A] 42 ✗

[B] 50 ✓

[C] 98 ✗

[D] 78 ✗

$$\begin{aligned} & a^2 + \frac{1}{a^2} + 3 \\ & \underline{\hspace{1cm}} \\ & = 7^2 - 2 + 3 \\ & = 50 \end{aligned}$$

$$b = \frac{1}{a} \Rightarrow ab = 1$$

$$a + \frac{1}{a} = \frac{2 \times 14}{4} = 7$$

67. If $a = \frac{\sqrt{5}+2}{\sqrt{5}-2}$ and $b = \frac{\sqrt{5}-2}{\sqrt{5}+2}$, then the value of $2a^2 + 2b^2 - 5ab$ is equal to:

यदि $a = \frac{\sqrt{5}+2}{\sqrt{5}-2}$ और $b = \frac{\sqrt{5}-2}{\sqrt{5}+2}$ है, तो $2a^2 + 2b^2 - 5ab$ का मान ज्ञात कीजिए।

[A] 693

[C] 635

[B] 649

[D] 639

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

$$b = \frac{1}{a} \Rightarrow a \cdot b = 1$$

$$a + \frac{1}{a} = \frac{2 \times (5+4)}{5-4} = 18$$

$$= 2 \times 322 - 5$$

$$= 639$$

68. If $x = \sqrt{\sqrt{\frac{3+2\sqrt{2}}{3-2\sqrt{2}}}}$, then $x^8 + \frac{1}{x^8} = ?$

यदि $x = \sqrt[4]{\frac{3+2\sqrt{2}}{3-2\sqrt{2}}}$ है, तो $x^8 + \frac{1}{x^8} = 34^2 - 2$

[A] 1156

[B] 1154

[C] 1152

[D] 1158

$$x^4 = \frac{3+2\sqrt{2}}{3-2\sqrt{2}}$$

$$x^4 + \frac{1}{x^4} = \frac{2 \times (9+8)}{(9-8)} = 34$$

$$\sqrt{a} = a^{\frac{1}{2}}$$

$$\sqrt{\sqrt{a}} = \sqrt[4]{a}$$



69. If $x + \frac{1}{x} = 9$, then find $x^4 + \frac{1}{x^4}$.

यदि $x + \frac{1}{x} = 9$ है, तो $x^4 + \frac{1}{x^4}$ का मान ज्ञात करें।

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[A] 5431

[B] 6561

[C] 6156

[D] 6239

$79 \times 79 = \dots 1 - 2$

$$x^2 + \frac{1}{x^2} = 9^2 - 2 = 79$$

$$x^4 + \frac{1}{x^4} = 79^2 - 2 =$$

70. If $\left(x + \frac{1}{x}\right) = 5\sqrt{2}$, then what is the value of $(x^4 + x^{-4})$?

यदि $\left(x + \frac{1}{x}\right) = 5\sqrt{2}$ है, तो $(x^4 + x^{-4})$ का मान ज्ञात करें।

(SSC CGL 2022)

[A] 2542

[C] 2452

[B] 2650

[D] 2302

$$x^4 + \frac{1}{x^4} = 48^2 - 2$$

$$x^2 + \frac{1}{x^2} = (5\sqrt{2})^2 - 2 = 48$$

71. If $x\sqrt{x} + \frac{1}{x\sqrt{x}} = 7$, then $x^6 + \frac{1}{x^6} = ?$

यदि $x\sqrt{x} + \frac{1}{x\sqrt{x}} = 7$ हो तो, $x^6 + \frac{1}{x^6} = ?$ $47^2 - 2$

[A] 2401

☒ [B] 2207

[C] 2399

[D] 2211

$(x\sqrt{x})^2 = x^3$

$$x^3 + \frac{1}{x^3} = 7^2 - 2 = 47$$

72. If $x - \frac{1}{x} = 11$, what is the value of $\left(x^4 + \frac{1}{x^4}\right)$?

यदि $x - \frac{1}{x} = 11$ है, तो $\left(x^4 + \frac{1}{x^4}\right)$ का मान क्या होगा?

[A] 14159

[B] 14163

☒ [C] 15127

[D] 15131

$$x - \frac{1}{x} = 11$$

$$x^2 + \frac{1}{x^2} = 11^2 + 2 = 123$$

$$x^4 + \frac{1}{x^4} = 123^2 - 2$$

..... 9-2

73. If $x^{1.08\sqrt{2}} - \frac{1}{x^{1.08\sqrt{2}}} = \sqrt{5}$, then find $x^{4.32\sqrt{2}} + \frac{1}{x^{4.32\sqrt{2}}}$?

यदि $x^{1.08\sqrt{2}} - \frac{1}{x^{1.08\sqrt{2}}} = \sqrt{5}$ है, तो $x^{4.32\sqrt{2}} + \frac{1}{x^{4.32\sqrt{2}}}$ ज्ञात कीजिये?

[A] 45

☒ [B] 47

[C] 7

[D] 11

$\rightarrow 7^2 - 2$

$$\begin{aligned} & 2.16\sqrt{2} \\ & \text{or} \quad \textcircled{+} \frac{1}{2.16\sqrt{2}} = \sqrt{5}^2 + 2 = 7 \end{aligned}$$

74. If $\sqrt{x} - \frac{1}{\sqrt{x}} = 7$, then $x^2 + \frac{1}{x^2}$ is equal to:

यदि $\sqrt{x} - \frac{1}{\sqrt{x}} = 7$, है, तो $x^2 + \frac{1}{x^2}$ का मान होगा?

[A] 2599

[C] 2508

[B] 2603

[D] 2560

$$x + \frac{1}{x} = 7^2 + 2 = 51$$

$$= 51^2 - 2 \\ = 2601 - 2$$

$$\text{If, } x + \frac{1}{x} = k$$

$$\Rightarrow x - k = \frac{-1}{x}$$

$$\Rightarrow x \cdot (x - k) = -1$$

$$\Rightarrow x^2 - kx + 1 = 0$$

$$\text{If, } x - \frac{1}{x} = k$$

$$\Rightarrow x - k = \frac{1}{x}$$

$$\Rightarrow x \cdot (x - k) = +1$$

$$\Rightarrow x^2 - kx - 1 = 0$$



$$x^n + \frac{1}{x^n} = k$$

$$x^n - k = -\frac{1}{x^n}$$

$$x^n \cdot (x^n - k) = -1$$

$$\text{if, } x^n - \frac{1}{x^n} = k$$

$$\text{तो } x^n \cdot (x^n - k) = +1$$

$$\text{if, } x \cdot (x-4) = -1$$

$$\Rightarrow x + \frac{1}{x} = 4$$

$$\text{तो } x^4 \cdot (x^4 - 194) = -1$$

$$x-4 = -\frac{1}{x}$$

$$x + \frac{1}{x} = 4$$

$$x^2 + \frac{1}{x^2} = 4^2 - 2 = 14$$

$$x^4 + \frac{1}{x^4} = 194$$

$$x^4 - 194 = -\frac{1}{x^4}$$

$$x^4 \cdot (x^4 - 194) = -1$$



Test Ranking



If, $x^n + \frac{1}{x^n} = k$

$x^n (x^n - k) = -1$

If, $w + \frac{1}{w} = 5$
तो

$w^4 (w^4 - 527) = -1$



$$\text{if, } x \cdot (x-6) = -1$$

✓

$$x^4 \cdot (x^4 - ??) = -1$$

तो ??

$$x + \frac{1}{x} = 6$$

↙
34
↘

$$?? = 1154$$

$$\text{if, } \frac{a^2 - 7a - 1}{a} = 0$$

$$\Rightarrow a - \frac{1}{a} = 7$$

$$\Rightarrow a^2 + \frac{1}{a^2} = 7^2 + 2 = 51$$

$$\Rightarrow a^4 + \frac{1}{a^4} = 2599$$

$$\text{तो } \underline{a^8 - 2599a^4 + 7} = ?$$

$$a^4 \cdot (a^4 - 2599) + 7$$

$$\begin{aligned} & -1 + 7 \\ & = 6 \end{aligned}$$

75. If $\sqrt{x} + \frac{1}{\sqrt{x}} = 3, x > 0$, then $x^2(x^2 - 47) = ?$

यदि $\sqrt{x} \oplus \frac{1}{\sqrt{x}} = 3, x > 0$ हो तो $x^2(x^2 - 47) = ?$
 $= -1$

[A] 0

[B] 2

[C] -1

[D] -2

$$x + \frac{1}{x} = 3^2 - 2 = 7$$

$$x^2 \oplus \frac{1}{x^2} = 47$$

$$x^2 - 47 = -\frac{1}{x^2}$$

76. If $x^2 - 15x + 1 = 0$, then what is the value of $x^4 - 223x^2 + 6$?

यदि $x^2 - 15x + 1 = 0$, तो $(x^4 - 223x^2) + 6$ का मान क्या है?

[A] 9

[B] 5

[C] 6

[D] 0

$$x + \frac{1}{x} = 15$$

$$= x^2 \cdot (x^2 - 223) + 6$$

$$= -1 + 6$$

77. If $x^2 - 9x + 1 = 0$, what is the value of $x^8 - 6239x^4 + 1$?
यदि $x^2 - 9x + 1 = 0$ है, तो $(x^8 - 6239x^4) + 1$ का मान क्या होगा?

[A] 1

[B] 0

[C] -1

[D] 2

$$x + \frac{1}{x} = 9$$

$$= x^4 \cdot (x^4 - 6239) + 1$$
$$= -1 + 1$$

#



If, $5x + \frac{1}{2x} = 11$

If, $25x^2 + \frac{1}{4x^2} = 11^2 - 2 \times 5 \times \frac{1}{2}$
 $= 116$

$$\left(5x + \frac{1}{2x}\right)^2 = 11^2$$

$$25x^2 + \frac{1}{4x^2} + 2 \times 5x \times \frac{1}{2x} = 11^2$$

$$25x^2 + \frac{1}{4x^2} = 11^2 - 2 \times 5 \times \frac{1}{2}$$

$$7x - \frac{3}{4x} = 15$$

$$\text{तो } 49x^2 + \frac{9}{16x^2} = 15^2 + \cancel{2} \times 7 \times \frac{\cancel{3}}{\cancel{4}^2}$$

$$= 225 + 10.5$$

$$= 235.5$$

78. If $\left(3x + \frac{2}{x} - 4\right) = 10$, then what is the value of $\left(9x^2 + \frac{4}{x^2} + 24\right)$?

यदि $\left(3x + \frac{2}{x} - 4\right) = 10$, तो $\left(9x^2 + \frac{4}{x^2} + 24\right)$ का मान क्या है?

[A] 214

[B] 208

[C] 256

[D] 218

$184 + 24$

$$3x + \frac{2}{x} = 14$$

$$9x^2 + \frac{4}{x^2} = 14^2 - 2 \times 3 \times 2 \\ = 184$$

79. If $5x + \frac{1}{3x} = 4$, then what is the value of $9x^2 + \frac{1}{25x^2}$?

$\frac{3}{5} \times (5x + \frac{1}{3x} = 4)$ है, तो $9x^2 + \frac{1}{25x^2}$ का मान क्या होगा?

[A] $\frac{174}{125}$

[B] $\frac{144}{125}$

[C] $\frac{114}{25}$

[D] $\frac{119}{25}$

$$3x + \frac{1}{5x} = \frac{12}{5}$$

$$\left(\frac{3x}{5}\right)^2 + \left(\frac{1}{5x}\right)^2 = \frac{144}{25} - 2 \times 3x \times \frac{1}{5}$$

$$= \frac{144 - 30}{25}$$

$$= \frac{114}{25}$$

80. If $12x^2 - 21x + 1 = 0$, then what is the value of $9x^2 + (16x^2)^{-1}$?

यदि $12x^2 - 21x + 1 = 0$, तो $9x^2 + (16x^2)^{-1}$ का मान क्या है?

[A] $\frac{429}{8}$

[C] $\frac{417}{16}$

[B] $\frac{465}{16}$

[D] $\frac{453}{8}$

$$3x + \frac{1}{4x} = \frac{21}{4}$$

$$\begin{aligned} (3x)^2 + \frac{1}{(4x)^2} &= \frac{441}{16} - 2 \times 3 \times \frac{1}{4} \\ &= \frac{441 - 24}{16} \\ &= \frac{417}{16} \end{aligned}$$

81. If $k - \frac{3}{k} = 5$, then what is the value of $k^2 + \frac{9}{k^2}$?

यदि $k - \frac{3}{k} = 5$, है, तो $k^2 + \frac{9}{k^2}$ का मान ज्ञात करें।

[A] 31

[B] 25

[C] 11

[D] 19

$$\begin{aligned} k^2 + \frac{9}{k^2} &= 5^2 + 2 \times 5 \times 3 \\ &= 31 \end{aligned}$$

82. If $7b - \frac{1}{4b} = 7$, then what is the value of $16b^2 + \frac{1}{49b^2}$?

~~$\frac{4}{7}$~~ $(7b - \frac{1}{4b} = 7)$ है, तो $16b^2 + \frac{1}{49b^2}$ का मान क्या है?

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[A] 80/49

[B] 104/7

[C] 120/7

[D] 7/2

$$4b - \frac{1}{7b} = 4$$

$$\begin{aligned} (4b)^2 + \left(\frac{1}{7b}\right)^2 &= 4^2 + 2 \times 4 \times \frac{1}{7} \\ &= \frac{120}{7} \end{aligned}$$

83. If $\left(2x - \frac{3}{x}\right) = 2$, then what is the value of $\left(16x^4 + \frac{81}{x^4}\right)$?

यदि $\left(2x - \frac{3}{x}\right) = 2$ है, तो $\left(16x^4 + \frac{81}{x^4}\right)$ का मान क्या होगा?

[A] 184

[B] 328

[C] 180

[D] 220

$$16^2 - 2 \times 4 \times 9$$

$$= 256 - 72$$

$$= 184$$

$$4x^2 + \frac{9}{x^2} = 2^2 + 2 \times 2 \times 3 = 16$$