

$$= \frac{2}{15} + \frac{3}{2} = \frac{49}{30}$$

Combining the simplified forms

$$= \frac{8}{5} = \frac{8 \times 80}{8 \times 49} = \frac{48}{49}$$

the difference between the correct answer and his answer =  $\frac{6}{7} - \frac{48}{49} = \frac{6}{49}$

Sol.183.(a) On solving the numerator first of the given equation:

$$= \left\{ \frac{10}{9} \times \left( \frac{21}{20} \times \frac{38}{21} \right) - \frac{1}{3} \right\} \div \left( \frac{22}{9} \div \frac{22}{15} \times \frac{3}{5} \right)$$

$$= \left\{ \frac{19}{9} - \frac{1}{3} \right\} \div \left( \frac{22}{9} \div \frac{22}{25} \right)$$

$$= \frac{16}{9} \div \frac{25}{9} = \frac{16}{25}$$

On simplifying the denominator

$$= \frac{1}{25} \div \frac{1}{125} - \left( \frac{1}{25} \div \frac{1}{25} \right)$$

$$= 5 - 1 = 4$$

On combining the two simplified forms

$$= \frac{16}{25} \div 4 = \frac{16}{100} = 0.16$$

Sol.184.(c) After simplifying we get

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

$$= \frac{4 - 3 - 3 + 6 + 4}{4 - 6 + \frac{1}{4}} = \frac{8}{-2 + \frac{1}{4}} = \frac{-32}{7}$$

Sol 185. (d)

$$\frac{7 + 8 \times 8 \div 8 \text{ of } 8 + 8 \div 8 \times 4 \text{ of } 4}{4 \div 4 \text{ of } 4 + 4 \times 4 \div 4 - 4 \div 4 \text{ of } 2}$$

$$\Rightarrow \frac{7 + 8 \times 8 \div 64 + 8 \div 8 \times 16}{4 \div 16 + 4 \times 4 \div 4 - 4 \div 8}$$

$$\Rightarrow \frac{7 + 1 + 16}{\frac{1}{4} + 4 - \frac{1}{2}}$$

$$\Rightarrow \frac{24 \times 4}{15} = 6.4$$

Sol 186. (a)  $(2 \frac{6}{7} \text{ of } 4 \frac{1}{5} \div \frac{2}{3}) \times 1 \frac{1}{9} \div (\frac{3}{4} \times 2 \frac{2}{3} \text{ of } \frac{1}{2} \div \frac{1}{4})$

$$\Rightarrow (\frac{20}{7} \text{ of } \frac{21}{5} \div \frac{2}{3}) \times \frac{10}{9} \div (\frac{3}{4} \times \frac{4}{3} \div \frac{1}{4})$$

$$\Rightarrow (12 \div \frac{2}{3}) \times \frac{10}{9} \div (\frac{3}{4} \times \frac{16}{3})$$

$$\Rightarrow 18 \times \frac{10}{9} \div 4 = 5$$

Sol 187. (a)

$$\frac{(253)^3 + (247)^3}{25.3 \times 25.3 - 624.91 + 24.7 \times 24.7} \Rightarrow$$

$$\frac{(253+247)(253 \times 253 - 62491 + 247 \times 247)}{\frac{1}{100} \times (253 \times 253 - 62491 + 247 \times 247)}$$

$$\Rightarrow 500 \times 100 = 50 \times 1000$$

According to the question

$$50 \times 1000 = 50 \times 10^k$$

$$\Rightarrow k = 3$$

Sol 188. (b)  $(\sqrt{2} + \sqrt{5} - \sqrt{3}) \times k = -12$

$$\Rightarrow k = \frac{-12}{(\sqrt{2} + \sqrt{5} - \sqrt{3})}$$

$$= \frac{-12}{(\sqrt{2} + \sqrt{5} - \sqrt{3})} \times \frac{(\sqrt{2} + \sqrt{5} + \sqrt{3})}{(\sqrt{2} + \sqrt{5} + \sqrt{3})}$$

$$\Rightarrow \frac{-12(\sqrt{2} + \sqrt{5} + \sqrt{3})}{(\sqrt{2} + \sqrt{5})^2 - (\sqrt{3})^2}$$

$$\Rightarrow \frac{-12(\sqrt{2} + \sqrt{5} + \sqrt{3})}{4 + 2\sqrt{10}}$$

$$\Rightarrow \frac{-6(\sqrt{2} + \sqrt{5} + \sqrt{3})}{2 + \sqrt{10}} \times \frac{\sqrt{10} - 2}{\sqrt{10} - 2}$$

$$\Rightarrow \frac{-6(\sqrt{2} + \sqrt{5} + \sqrt{3})(\sqrt{10} - 2)}{6}$$

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

Sol 189. (a)  $(1 \frac{1}{3} \div 2 \frac{6}{7} \text{ of } 5 \frac{3}{5}) \div (6 \frac{2}{5} \div 4 \frac{1}{2} \text{ of } 5 \frac{1}{3}) \times \frac{3}{4} \times 2 \frac{2}{3} \div \frac{5}{9} \text{ of } 1 \frac{1}{5}$

$$= 1 + k,$$

$$\Rightarrow (\frac{3}{4} \div 16) \div (\frac{32}{5} \div 24) \times (\frac{3}{4} \times 2 \frac{2}{3} \div \frac{2}{3}) = 1 + k$$

$$\Rightarrow (\frac{1}{12}) \div (\frac{4}{15}) \times (3) = 1 + k$$

$$\Rightarrow \frac{5}{16} \times 3 = 1 + k$$

$$\Rightarrow 0.9375 = 1 + k$$

$$\Rightarrow k = -0.0625$$

Clearly k lies between -0.07 and -0.06

Sol 190. (a)

$$\frac{\sqrt{10 + 2(\sqrt{6} - \sqrt{15} - \sqrt{10})}}{\sqrt{10 + 2(\sqrt{2} \cdot \sqrt{3} - \sqrt{5} \cdot \sqrt{3} - \sqrt{2} \cdot \sqrt{5})}} \Rightarrow$$

$$\Rightarrow \frac{\sqrt{\{(\sqrt{2})^2 + (\sqrt{5})^2 + (\sqrt{3})^2\}}}{\sqrt{2(\sqrt{2} \cdot \sqrt{3} - \sqrt{5} \cdot \sqrt{3}) - \sqrt{2} \cdot \sqrt{5}}}$$

$$\Rightarrow \frac{\sqrt{(\sqrt{2} + \sqrt{3} - \sqrt{5})^2}}{(\sqrt{2} + \sqrt{3} - \sqrt{5})}$$

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

Sol 191. (a)  $0.5\bar{6} - 0.7\bar{23} + 0.3\bar{9} \times 0.7$

$$\Rightarrow \frac{56-5}{90} - \frac{723-7}{990} + \frac{39-3}{90} \times \frac{7}{9}$$

$$\Rightarrow \frac{51}{90} - \frac{716}{990} + \frac{28}{90}$$

$$\Rightarrow \frac{561-716+308}{990} = \frac{153}{990} =$$

$$0.1545454... \infty = 0.1\bar{54}$$

Alternate :

$$0.5\bar{6} - 0.7\bar{23} + 0.3\bar{9} \times 0.7 \Rightarrow 0.5\bar{6} - 0.7\bar{23}$$

$$+ \frac{39-3}{90} \times \frac{7}{9}$$

$$\Rightarrow 0.5\bar{6} - 0.7\bar{23} + \frac{28}{90} \Rightarrow 0.5\bar{6} - 0.7\bar{23} + 0.3\bar{1}$$

$$\Rightarrow 0.5\bar{66} - 0.7\bar{23} + 0.3\bar{11} = 0.1\bar{54}$$

Sol 192. (a)

$$9 \times 6 \div 24 + 8 \div 2 \text{ of } 5 - 30 \div 4 \text{ of } 4$$

$$+ 27 \times 5 \div 9$$

$$\Rightarrow 9 \times \frac{1}{4} + 8 \div 10 - 30 \div 16 + 15$$

$$\Rightarrow \frac{9}{4} + \frac{4}{5} - \frac{15}{8} + 15$$

$$\Rightarrow \frac{90+32-75}{40} + 15$$

$$\Rightarrow \frac{47}{40} + 15 = \frac{647}{40}$$

Sol 193. (c)  $\sqrt{28 + 10\sqrt{3}} - \sqrt{7 - 4\sqrt{3}}$

$$\Rightarrow \sqrt{25 + 3 + 2 \times 5 \times \sqrt{3}}$$

$$- \sqrt{4 + 3 - 2 \times 2 \times \sqrt{3}}$$

$$\Rightarrow \sqrt{(5 + \sqrt{3})^2} - \sqrt{(2 - \sqrt{3})^2}$$

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

$$\Rightarrow 3 + 2\sqrt{3} = 6.46 \approx 6.5$$

Sol 194. (d)  $0.4\bar{7} + 0.5\bar{03} - 0.3\bar{9} \times 0.8$

$$\Rightarrow \frac{47-4}{90} + \frac{503-5}{990} - \frac{39-3}{90} \times \frac{8}{9}$$

$$\Rightarrow \frac{43}{90} + \frac{498}{990} - \frac{32}{90}$$

$$\Rightarrow \frac{473+498-352}{990} = \frac{619}{990} = 0.6252525...$$

$$= 0.6\bar{25}$$

Sol 195. (c)

$$\frac{2\sqrt{10}}{\sqrt{5} + \sqrt{2} - \sqrt{7}} - \sqrt{\frac{\sqrt{5}-2}{\sqrt{5}+2}} - \frac{3}{\sqrt{7}-2}$$

$$\Rightarrow \frac{2\sqrt{10}}{\sqrt{5} + \sqrt{2} - \sqrt{7}} \times \frac{\sqrt{5} + \sqrt{2} + \sqrt{7}}{\sqrt{5} + \sqrt{2} + \sqrt{7}} -$$

$$\sqrt{\frac{\sqrt{5}-2}{\sqrt{5}+2}} \times \frac{\sqrt{5}-2}{\sqrt{5}-2}$$

$$- \frac{3}{\sqrt{7}-2} \times \frac{\sqrt{7}+2}{\sqrt{7}+2}$$

$$\Rightarrow \frac{(2\sqrt{10})(\sqrt{5} + \sqrt{2} + \sqrt{7})}{(\sqrt{5} + \sqrt{2})^2 - (\sqrt{7})^2}$$

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

$$\Rightarrow \frac{(2\sqrt{10})(\sqrt{5} + \sqrt{2} + \sqrt{7})}{7 + 2\sqrt{10} - 7}$$

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

$$\Rightarrow \sqrt{5} + \sqrt{2} + \sqrt{7} - \sqrt{5} + 2 - \sqrt{7} - 2 = \sqrt{2}$$

Sol 196. (a)

$$24 \times 2 \div 12 + 12 \div 6 \text{ of } 2 \div (15 \div 8 \times 4) \text{ of } (28 \div 7 \text{ of } 5)$$

$$\Rightarrow 24 \times \frac{1}{6} + 12 \div 12 \div (\frac{15}{8} \times 4) \text{ of } (28 \div 35)$$

$$\Rightarrow 4 + 12 \div 12 \div (\frac{15}{2}) \text{ of } \frac{4}{5}$$

$$\Rightarrow 4 + 1 \div 6 = 4 \frac{1}{6}$$

Sol 197. (a)  $9 \frac{4}{9} \div 11 \frac{1}{3} \text{ of } \frac{1}{6} + (1 \frac{1}{3} \times 1$ 

$$\frac{4}{5} \div \frac{3}{5}) \times 2 \frac{1}{6} \text{ of } \frac{2}{3} \div \frac{4}{3} \text{ of } \frac{2}{3}$$

$$\Rightarrow \frac{85}{9} \div \frac{34}{18} + (\frac{4}{3} \times \frac{9}{5} \div \frac{3}{5})$$

$$\times \frac{13}{9} \div \frac{8}{9}$$

$$\Rightarrow 5 + 4 \times \frac{13}{8} = \frac{23}{2}$$

Desired difference =  $\frac{77}{4} - \frac{23}{2} = 7 \frac{3}{4}$ 

Sol 198. (d)

$$32 \div 4 \text{ of } 2 \times 3 + [5 \text{ of } 6 - \{7 \text{ of } 8(10 + 6 \text{ of } \frac{5}{6} \div 5 - 1) \div 80\}] - 7 \times 3 \div 2$$

$$\Rightarrow 32 \div 8 \times 3 + [30 - \{56(10 + 5 \div 5 - 1) \div 80\}] - 7 \times 3 \div 2$$

$$\Rightarrow 4 \times 3 + [30 - \{56(10) \div 80\}] - 7 \times \frac{3}{2}$$

$$\Rightarrow 12 + 23 - \frac{21}{2} = 24.5$$

Sol 199. (b)

$$\frac{72 \div 9 + 3 - 6 - (2 \times 3) + 5 \text{ of } 3 - (1 + 5 \times 2 - 2)}{8 \div 4 + 2 - (6 \times 8 \div 2) + (7 \times 4 - 2 \times 2)}$$

$$\Rightarrow \frac{8 + 3 - 6 - 6 + 15 - (1 + 10 - 2)}{2 + 2 - (6 \times 4) + (28 - 4)}$$

$$\Rightarrow \frac{11 + -12 + 15 - 9}{4} = \frac{5}{4}$$

Sol 200. (b)

$$7 \div 2 - [3 \text{ of } 7 \div 4 \div \{(2 \div 5) \times (25 \div 8) \div (5 \div 2)\}]$$

$$\Rightarrow 3.5 - [21 \div 4 \div \{0.4 \times 3.125 \div 2.5\}]$$

$$\Rightarrow 3.5 - [5.25 \div \{0.4 \times 1.25\}]$$

$$\Rightarrow 3.5 - [5.25 \div 0.5] = -7$$

Sol 201. (a)

$$\frac{3}{4} \text{ of } (\frac{1}{3} \div \frac{1}{2}) + (2 - \frac{2}{5}) \times \frac{3}{2} + \frac{2}{3}$$

$$\Rightarrow \frac{3}{4} \text{ of } (\frac{2}{3}) + (\frac{8}{5}) \times \frac{3}{2} + \frac{2}{3}$$

$$\Rightarrow \frac{1}{2} + \frac{12}{5} + \frac{2}{3} = \frac{107}{30}$$

Sol 202. (c)

$$\frac{\frac{2}{3} \text{ of } \frac{9}{4} + \frac{1}{2} \div \frac{5}{4}}{1 - \frac{1}{3} + \frac{1}{4} \times (1 + \frac{1}{3})}$$

$$\Rightarrow \frac{\frac{3}{2} + \frac{1}{2} \div \frac{5}{4}}{\frac{2}{3} + \frac{1}{4} \times \frac{4}{3}}$$

$$\Rightarrow \frac{\frac{3}{2} + \frac{2}{5}}{1} = \frac{19}{10}$$

Sol 203. (c)

$$\frac{3}{7} \div \frac{9}{21} + 2 - \frac{4}{3} + \frac{1}{2} \text{ of } \frac{12}{5} \times \frac{25}{18}$$

$$\div \frac{5}{9}$$

$$\Rightarrow 1 + \frac{2}{3} + \frac{6}{5} \times \frac{5}{2}$$

$$\Rightarrow 1 + \frac{2}{3} + 3 = \frac{14}{3}$$

Sol 204. (c)

$$90 \times 3 \div 9 + 4 \div 2 \times 3 \text{ of } 4 \times 8$$

$$\div (18 \times 2 - 4)$$

$$\Rightarrow 90 \times \frac{1}{3} + 2 \times 12 \times 8 \div (36 - 4)$$

$$\Rightarrow 30 + 24 \times \frac{1}{4} = 36$$

Sol 205. (d)

$$A = 40 \div 8 + 5 \times 2 - 4 + 5 \text{ of } 3$$

$$= 5 + 10 - 4 + 15 = 26$$

$$B = 24 \div 4(4 + 2) + 19 \text{ of } 2$$

$$= 24 \div 24 + 38 = 39$$

$$\Rightarrow A - B = 26 - 39 = -13$$

Sol 206. (c)

$$36 \div 8 \times 4 + 2 \div 4 - 1 + 5 \text{ of } 3 \div$$

$$(4 \times 2 - 3) - 3$$

$$\Rightarrow 4.5 \times 4 + \frac{1}{2} - 1 + 15 \div (5) - 3$$

$$\Rightarrow 18 - \frac{1}{2} = \frac{35}{2}$$

Sol 207. (c)

$$A = 7 \times 3 \div (2 + 4) + 4 - 2$$

$$= 21 \div 6 + 2 = \frac{11}{2}$$

$$B = 3 \div 6 \times 4 + 2 - 2 \text{ of } 3$$

$$= \frac{1}{2} \times 4 + 2 - \frac{2}{3} = \frac{10}{3}$$

$$\text{and } C = 6 \div 2 + 4 \times 3 - 2$$

$$= 3 + 12 - 3 = 12$$

$$(A + B - C) = \frac{11}{2} + \frac{10}{3} - 12 = -\frac{19}{2}$$

Sol 208. (b)  $\frac{3 \text{ of } 24 \div 8 \times 3 + 4 \div 2 - 4 \times 5}{36 \div 12 \times 4 \div 2 + 5 \times (6 - 4)}$ 

$$\Rightarrow \frac{72 \div 8 \times 3 + 2 - 20}{3 \times 2 + 10}$$

$$\Rightarrow \frac{27 + 2 - 20}{16} = \frac{9}{16}$$

$$\text{Sol 209. (b) } \frac{\frac{3}{4} \div \frac{9}{32} + \frac{4}{3} \times \frac{2}{3} \text{ of } \frac{27}{16}}{\frac{1}{2} \times (\frac{8}{3} - 2) \div \frac{4}{9} + (\frac{1}{3} + \frac{1}{6})}$$

$$\Rightarrow \frac{\frac{8}{3} + \frac{4}{3} \times \frac{9}{8}}{\frac{1}{2} \times (\frac{2}{3}) \div \frac{4}{9} + \frac{1}{2}}$$

$$\Rightarrow \frac{\frac{8}{3} + \frac{3}{2}}{\frac{1}{2} \times \frac{3}{2} + \frac{1}{2}} = \frac{10}{3}$$

Sol 210. (d)  $\frac{39 \div 26 + 22 \div 11 \times 2 + 4 \times 3}{2 \text{ of } 5 - 3(7 + 10 \div 2 - 3 \times 3)}$ 

$$\Rightarrow \frac{\frac{3}{2} + 2 \times 2 + 12}{10 - 3(7 + 5 - 9)}$$

$$\Rightarrow \frac{\frac{3}{2} + 4 + 12}{10 - 9} = \frac{35}{2}$$

Sol 211. (c)

$$(24 + 16 \times 5 - 8 \text{ of } 4) \div 84 \times 48 \div$$

$$24 \times 6 + 4 + 3$$

$$\Rightarrow (24 + 80 - 32) \div 84 \times 2 \times 6 + 4 + 3$$

$$\Rightarrow 72 \div 84 \times 12 + 7$$

$$\Rightarrow \frac{6}{7} \times 12 + 7 = \frac{121}{7}$$

Sol 212. (d)

$$(3 \times 4 \text{ of } 12 \div 2) \div 9 \times 4 + 4 \div 8 + 3 \times 2$$

$$\Rightarrow (3 \times 48 \div 2) \div 9 \times 4 + \frac{1}{2} + 6$$

$$\Rightarrow 72 \div 9 \times 4 + \frac{1}{2} + 6 = \frac{77}{2}$$

Sol 213. (a)

$$A = 8 \div 4 \times (3 - 1) + 6 \times 3 \div 2 \text{ of } 3$$

$$= 2 \times (2) + 6 \times 3 \div 6 = 7$$

$$B = 4 \div 8 \times 2 + 7 \times 3$$

$$= \frac{1}{2} \times 2 + 21 = 22$$

$$\Rightarrow A + B = 7 + 22 = 29$$

Sol 214. (d)

$$(6 \text{ of } 4 \div 16 \times 48) \div 8 \times 4 + 2 \times 3$$

$$\div 6 + 5(6 - 2)$$

$$\Rightarrow (24 \div 16 \times 48) \div 8 \times 4 + 2 \times \frac{1}{2} + 20$$

$$\Rightarrow 72 \div 8 \times 4 + 1 + 20$$

$$\Rightarrow 9 \times 4 + 21 = 57$$

Sol 215. (a)

$$\frac{3}{4} \div (\frac{1}{2} + \frac{1}{16}) + \frac{2}{3} \text{ of}$$

$$\frac{4}{9} \div (\frac{1}{3} - \frac{11}{81}) + \frac{1}{4} \times \frac{2}{3}$$

$$\Rightarrow \frac{3}{4} \div (\frac{9}{16}) + \frac{8}{27} \div (\frac{16}{81}) + \frac{1}{6}$$

$$\Rightarrow \frac{4}{3} + \frac{3}{2} + \frac{1}{6} = 3$$

$$\begin{aligned} \text{Sol 216. (b)} & \frac{(1-\frac{1}{4})+(\frac{1}{2} \text{ of } \frac{1}{2})\div\frac{2}{5}}{\frac{2}{5}\div\frac{1}{4}+\frac{3}{2}(2-\frac{8}{5})} \\ & = \frac{(\frac{3}{4})+(\frac{1}{4})\div\frac{2}{5}}{\frac{2}{5}\div\frac{1}{4}+\frac{3}{2}(\frac{2}{5})} \\ & = \frac{(\frac{3}{4})+(\frac{5}{8})}{\frac{8}{5}+\frac{3}{5}} = \frac{5}{8} \end{aligned}$$

$$\begin{aligned} \text{Sol 217. (d)} & (1+\frac{3}{4})\times\frac{3}{21} \text{ of } 5\frac{1}{3}\div\frac{128}{49} + \frac{2}{3}\times \\ & \frac{7}{11}\times\frac{121}{49}\div(\frac{15}{14}-\frac{2}{7}) \\ & \Rightarrow \frac{7}{4}\times\frac{16}{21}\div\frac{128}{49} + \frac{2}{3}\times\frac{7}{11}\times\frac{121}{49}\div\frac{11}{14} \\ & \Rightarrow \frac{7}{4}\times\frac{7}{24} + \frac{2}{3}\times\frac{7}{11}\times\frac{22}{7} \\ & \Rightarrow \frac{49}{96} + \frac{4}{3} = \frac{59}{32} \end{aligned}$$

$$\begin{aligned} \text{Sol 218. (d)} & A=2\div 3\times 4 = \frac{8}{3} \\ B & = 3 \text{ of } 4 + (7-2) \\ & = 12 + 5 = 17 \\ \text{and } C & = 4 + 5 - 6 = 3 \\ \Rightarrow A+B+C & = \frac{8}{3} + 17 + 3 = \frac{68}{3} \end{aligned}$$

$$\begin{aligned} \text{Sol 219. (c)} & \frac{(49-13)\times 18\div 9+4\times 12\div 6+5}{98\div 14+7\times 4 \text{ of } 6\div 8+4} \\ & \Rightarrow \frac{36\times 2+4\times 2+5}{7+7\times 24\div 8+4} \\ & \Rightarrow \frac{72+8+5}{7+21+4} = \frac{85}{32} \end{aligned}$$

$$\begin{aligned} \text{Sol 220. (c)} & \frac{2\div 3\times(1+3)+5-6}{2 \text{ of } 3\div 5\times 4+3-2} \\ & \Rightarrow \frac{\frac{2}{3}\times 4+5-6}{6\div 5\times 4+3-2} \\ & \Rightarrow \frac{\frac{5}{3}}{\frac{24}{5}+1} = \frac{25}{87} \end{aligned}$$

$$\begin{aligned} \text{Sol 221. (a)} & 2 \text{ of } 16\div 48\times 12+4 \\ & \div 8\times 16+(7-2)\times 25\div 15 \\ & \Rightarrow 32\div 48\times 12+\frac{1}{2}\times 16+(7-2)\times 25 \\ & \div 15 \\ & \Rightarrow \frac{2}{3}\times 12+8+5\times\frac{5}{3} = \frac{73}{3} \end{aligned}$$

$$\begin{aligned} \text{Sol 222. (c)} & (\frac{1}{2}\div\frac{1}{2}\times\frac{1}{2}+\frac{1}{2}-\frac{1}{2}+\frac{1}{2}\times\frac{1}{2}\div\frac{1}{2}) \\ & \text{of } (\frac{1}{2}+\frac{1}{2}) \\ & \Rightarrow (1\times\frac{1}{2}+\frac{1}{2}\times 1) \text{ of } (1) = 1 \end{aligned}$$

$$\begin{aligned} \text{Sol 223. (c)} & \frac{12 \text{ of } 3\div 6+12\times 2-(2\times 4-5)}{12\div 3\times 4+(2\times 4-5)} \\ & \Rightarrow \frac{36\div 6+24-(8-5)}{4\times 4+(8-5)} \\ & \Rightarrow \frac{6+24-3}{16+3} = \frac{27}{19} \end{aligned}$$

$$\begin{aligned} \text{Sol 224. (b)} & 5 \text{ of } 5 \text{ of } 5\div 5+5-6 \\ & \div 3\times 4+2+(3\div 6\times 2) \\ & \Rightarrow 125\div 5+5-2\times 4+2+(\frac{1}{2}\times 2) \\ & \Rightarrow 25+5-8+3 = 25 \end{aligned}$$

$$\begin{aligned} \text{Sol 225. (c)} & (9\div 30)^2\times 2.4+0.3 \text{ of } 12\times(1-0.3)^2 \\ & + 9\times(0.3)^2 \\ & \Rightarrow 0.09\times 2.4+3.6\times 0.49+0.81 \\ & \Rightarrow 0.216+1.764+0.81 = 2.79 \end{aligned}$$

$$\begin{aligned} \text{Sol 226. (a)} & 2 \text{ of } 3\div 3\times 2+\{4\times 3-(5\times 2+3)\} \\ & \Rightarrow 6\div 3\times 2+\{12-(10+3)\} \\ & \Rightarrow 2\times 2+12-13 = 3 \end{aligned}$$

$$\begin{aligned} \text{Sol 227. (d)} & \frac{0.56\times 0.36+0.42\times 0.32}{0.8\times 0.21} \\ & \Rightarrow \frac{0.2016+0.1344}{0.168} = 2 \end{aligned}$$

$$\begin{aligned} \text{Sol 228. (a)} & (3576+4286+6593)\div(201+105 \\ & +107) \\ & \Rightarrow 14455\div 413 = 35 \end{aligned}$$

$$\begin{aligned} \text{Sol 229. (d)} & 45\times x = 25\% \text{ of } 900 \\ & \Rightarrow 45x = \frac{25}{100}\times 900 \\ & \Rightarrow x = \frac{225}{45} = 5 \end{aligned}$$

$$\begin{aligned} \text{Sol 230. (d)} & (x^5\div x^4)^3\div x^2 \\ & \Rightarrow (x)^3\div x^2 = x \end{aligned}$$

$$\begin{aligned} \text{Sol 231. (c)} & 23^2+\sqrt{x} = 625 \\ & \Rightarrow \sqrt{x} = 625-529 \\ & \Rightarrow x = 96^2 = 9216 \end{aligned}$$

$$\begin{aligned} \text{Sol 232. (c)} & (2\frac{1}{6}+1\frac{13}{18}-\frac{1}{6})\times 16\div 4 \\ & \Rightarrow (\frac{13}{6}+\frac{31}{18}-\frac{1}{6})\times 4 \\ & \Rightarrow \frac{39+31-3}{18}\times 4 = \frac{134}{9} \end{aligned}$$

$$\begin{aligned} \text{Sol 233. (c)} & [12\times 5-\{200-(501+247-386)\}]\div 2 \\ & \Rightarrow [60-\{200-362\}]\div 2 \\ & \Rightarrow [60+162]\div 2 = 111 \end{aligned}$$

$$\begin{aligned} \text{Sol 234. (b)} & 5\frac{1}{3}\times 2\frac{1}{7}\times 9\frac{2}{5}\times 4\frac{3}{8}\times 2\frac{6}{47} \\ & \Rightarrow \frac{16}{3}\times\frac{15}{7}\times\frac{47}{5}\times\frac{35}{8}\times\frac{100}{47} = 1000 \end{aligned}$$

$$\begin{aligned} \text{Sol 235. (c)} & \sqrt{\frac{25.60}{72.90}} + \sqrt{\frac{0.10}{8.10}} \\ & \Rightarrow \sqrt{(\frac{1.6}{2.7})^2} + \sqrt{(\frac{1}{9})^2} \\ & \Rightarrow \frac{16}{27} + \frac{1}{9} = \frac{19}{27} \end{aligned}$$

$$\begin{aligned} \text{Sol 236. (a)} & (15+3\times 1.1)\div 0.0003 \\ & \Rightarrow (15+3.3)\div 0.0003 \\ & \Rightarrow \frac{18.3}{3}\times 10000 = 61000 \end{aligned}$$

$$\begin{aligned} \text{Sol 237. (c)} & 7\times 7 \text{ of } 3\div 3-14\times x = 7 \\ & \Rightarrow 7\times 21\div 3-14\times x = 7 \\ & \Rightarrow 49-7 = 14x \\ & \Rightarrow x = 3 \end{aligned}$$

$$\begin{aligned} \text{Sol 238. (a)} & (1x^2+2x^3-3x^4+4x^5-5x^6+6x^7) \\ & \Rightarrow 2+6-12+20-30+42 = 28 \end{aligned}$$

$$\begin{aligned} \text{Sol 239. (d)} & 8 \text{ of } 3\div 6+(10+2)\times 3-96\div 3 \\ & = 24\div 6+12\times 3-32 = 8 \end{aligned}$$

$$\begin{aligned} \text{Sol 240. (d)} & 12^2+16 \text{ of } 3-20\div 4 \\ & \Rightarrow 144+48-5 = 187 \end{aligned}$$

$$\begin{aligned} \text{Sol 241. (b)} & [ \{ (100 \text{ of } 0.9\times 0.8-7\times 1.2\div 0.2 \\ & + 5\times 4-3\times 2) \} \div 10+1.85] \\ & \Rightarrow [ \{ (90\times 0.8-7\times 6+20-6) \} \\ & \div 10+1.85] \\ & \Rightarrow [72-42+20-6]\div 10+1.85 \\ & \Rightarrow 44\div 10+1.85 = 6.25 \end{aligned}$$

$$\text{Required square root} = \sqrt{6.25} = 2.5$$

$$\begin{aligned} \text{Sol 242. (a)} & (1x^2+3x^4+5x^6+7x^8-9 \\ & x^{10})\div 2 \text{ of } 5 \\ & \Rightarrow (2+12+30+56-90)\div 10 \\ & \Rightarrow 10\div 10 = 1 \end{aligned}$$

$$\begin{aligned} \text{Sol 243. (c)} & (28\div 4\times 7)+(44\div 4\times 7) \\ & -(12\times x) = 18 \\ & \Rightarrow (7\times 7)+(11\times 7)-(12\times x) = 18 \\ & \Rightarrow 49+77-12x = 18 \\ & \Rightarrow 126-18 = 12x \\ & \Rightarrow x = 9 \end{aligned}$$