

$$860. \text{Sum} = \frac{50 \times 100}{5 \times 2} = 500$$

$$\text{CI} = 500 \left(1 + \frac{5}{100} \right)^2 - 500$$

$$= 500 \times \frac{21}{20} \times \frac{21}{20} - 500 = \text{Rs. } 51.25$$

$$861. \text{Speed in still water} = \frac{1}{2}(12+4) = 8 \text{ kmph}$$

$$862. \text{Required average} = \frac{5 \times 12 + 3 \times 16}{8} = 13.5 \text{ years}$$

$$863. \text{Last number} = 20 \times 12 - (12 \times 11 + 7 \times 10) = 38$$

$$864. 7250 \times \frac{3}{3+26} = 750$$

$$865. \text{Let the amount be } 100$$

$$= 100 \times \frac{20}{100} = 20\% \quad 100 - 20 = 80$$

$$= 80 \times \frac{15}{100} = 12\%$$

$$\text{Total discount} = 20 + 12 = 32\%$$

$$867. \sqrt{248\sqrt{52+\sqrt{144}}} = \sqrt{248+\sqrt{64}}$$

$$= \sqrt{256} = 16$$

$$868. \frac{7}{2} \times \frac{2}{5} \times \frac{3}{2} \times \frac{1}{5} = \frac{21}{10} \times \frac{1}{5} = \frac{21}{50} = \frac{21}{10} \times \frac{15}{14} \times \frac{1}{5}$$

$$= \frac{315}{700} = 0.45$$

$$869. \sqrt{-3+\sqrt{4+\sqrt{3}}}$$

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

$$870. x \times \frac{3}{2}x = 96 \Rightarrow x = 8$$

$$\therefore \text{Greater Number} = \frac{3}{2} \times 8 = 12$$

$$871. \text{Let the number be } 100$$

$$\text{When increased by } 20\% = 100 \times \frac{100+120}{100} = 120$$

$$\text{When reduced by } 20\% = 120 \times \frac{80}{100} = 96$$

$$\text{Distance} = 100 - 96 = 4\%$$

$$873. 5 + \frac{1}{6 + \frac{1}{8 + \frac{1}{10}}} \Rightarrow 5 + \frac{1}{6 + \frac{1}{\frac{81}{10}}}$$

$$= 5 + \frac{1}{6 + \frac{10}{81}} = 5 + \frac{81}{496} = 5 \frac{81}{496}$$

$$874. \frac{\sqrt{(2+\sqrt{3})^2}}{4-1} = 2 + \sqrt{3} = 3.73$$

$$875. x^2 + \frac{1}{x^2} = \left(x + \frac{1}{x}\right)^2 - 2 \times \left(\frac{1}{x}\right) = 4 - 2 = 2$$

$$876. 3^{x-y} = 27 \text{ \& } 3^{x+y} = 243$$

$$3^3 = 27 \text{ \& } 3^5 = 243$$

$$x - y = 3 \dots\dots(1)$$

$$x + y = 5 \dots\dots(2)$$

$$2x = 8$$

$$x = 4$$

$$877. \text{Required number of days} = \frac{150 \times 35}{125} = 42 \text{ days}$$

$$878. \frac{\text{Sum}}{\text{Difference}} = \frac{4+9}{9-4} = \frac{13}{5}$$

$$= 40 \times \frac{13}{5} = 104$$

$$879. \text{Two numbers percentage} = 20\% \text{ \& } 50\%$$

$$\frac{120}{150} \times 100 = 80\%$$

$$880. \text{Required population} = 15625 - \left(1 + \frac{4}{100}\right)^3$$

$$= 17576$$

$$881. \text{Total of 11 results} = 11 \times 50 = 550$$

$$\text{Total of first 6 results} = 6 \times 49 = 294$$

$$\text{Total of last 6 results} = 6 \times 52 = 312$$

$$\therefore \text{Sixth result} = 294 + 312 - 550 = 56$$

$$882. \text{Let the marked price be Rs. } 100$$

$$\text{S.P.} = \frac{90}{100} \times 100 = \text{Rs. } 90$$

$$\text{Gain} = 20\%$$

$$\text{C.P.} = 90 \times \frac{100}{120} = \text{Rs. } 75$$

$$\text{S.P.} = \text{Rs. } 90$$

$$\text{Required profit} = \frac{15}{75} \times 100 = 20\%$$

883. Let $\frac{x}{21} \times \frac{x}{189} = 1$

$$x^2 = 21 \times 189 = \sqrt{21 \times 21 \times 3 \times 3} = 63$$

884. Let the price be Rs. x

$$\text{C.P.} = \frac{80}{100}x = \frac{4x}{5}$$

$$\therefore \frac{4x}{5} + 50 = \frac{150}{100} \times \frac{4x}{5} = \text{Rs. 125}$$

885. C.P. = Rs. 4800 $\times \frac{100}{110}$ = Rs. 4363.63

C.P. = Rs. 4363.63; IInd S.P. = Rs. 4763.63

Rs. 4763.63 - Rs. 4363.63 = Rs. 400

$$\text{Gain \%} = \frac{400 \times 100}{4363.63} = 9.1\%$$

886. C.P. per bag = Rs. 150 $\times \frac{100}{100-10}$

$$\Rightarrow 150 \times \frac{100}{90} \times \frac{120}{100} = \text{Rs. 200}$$

887. Difference in Compound Interest & Simple

$$\text{Interest} = \frac{R \times S.I.}{2 \times 100}$$

$$\therefore \frac{4 \times 80}{2 \times 100} = 1.6$$

C.I. = 80 + 1.6 = **Rs. 81.6**

888. C.I. = 10000 $\left(1 + \frac{2}{100}\right)^4$ - 10000

$$= 10000 \left(\frac{51}{50} \times \frac{51}{50} \times \frac{51}{50} \times \frac{51}{50} - 1\right) = \text{Rs. 824.32}$$

889. Required area = πr^2

$$\text{Diameter} = 14 = \frac{22}{7} \times 7 \times 7 = 154 \text{ cm}^2$$

890. Let the number be x

$$x \times \frac{1}{4} \times \frac{1}{3} \times \frac{2}{5} = 15$$

$$x = \frac{15 \times 4 \times 3 \times 5}{2} = 450 \Rightarrow 450 \times \frac{40}{100} = 180$$

891. AP $\Rightarrow a = 5$ & $d = 5$; $T_n = 995$

Numbers are 5, 10, 15, 995

$$a + (n-1)d = 995$$

$$5 + (n-1) \times 5 = 995$$

$$n = 199$$

892. The difference between the votes = 30%

$$= \frac{30}{100} \times T = 300$$

$$T = 300 \times \frac{100}{30} = 1000$$

893. Amount of water = $\frac{10}{100} \times 20 = 2$ kg

Weight of mixture = 18 kg

$$= \frac{100}{75} \times 18 = 24 \text{ kg}$$

\therefore Amount of water to be added = 24 - 20 = 4 kg

894. Let the numbers be 3x & 5x

$$\therefore \frac{3x-9}{5x-9} = \frac{12}{23}$$

$$= 23(3x-9) = 12(5x-9) = 11$$

$$\therefore \text{First number} = 3 \times 11 = 33$$

895. $\frac{1}{4} - \frac{1}{6} = \frac{1}{12}$

\therefore It will take **12 hours**

896. Area of square = 22 cm²

Perimeter of square = $4\sqrt{22}$ cm

$$\text{Required Area} = \frac{4 \times 4 \times 22 \times 7}{4 \times 22} = 28 \text{ cm}^2$$

897. Area of $\Delta = \frac{1}{2} \times b \times h$

$$= \frac{1}{2} \times 10.2 \times 3.5 = 17.85 \text{ cm}^2$$

898. $143 \times ? + 72 \times 58 \div 87 = 6912$

$$\therefore 143 \times ? = 6912 - 48 = 6864$$

$$\Rightarrow ? = 6864 \div 143 = 48$$

899. $3\frac{2}{3}$ of 183 - $1\frac{4}{5}$ of 165 = ?

$$= 671 - 297 = 374$$

900. $48617 - 15470 + ? = 37182 \Rightarrow ? = 4035$

901. 32% of 16.6 - ? = 4.8% of 54 = 2.592

$$\therefore ? = 5.312 - 2.592 = 2.72$$

902. $\frac{14 \times 75 + 32 \times 12}{36 \times 41 + 18 \times 157} = ? = \frac{1434}{4302} = \frac{1}{3}$

903. $3\frac{1}{2} - 2\frac{1}{4} + 4\frac{1}{5} - 6\frac{2}{5} = 1 - ? = -0.95$

$$\therefore ? = 1 - (-0.95) = 1 + 0.95 = 1.95$$

$$904. 8.38 + 2.84 \times 3.57 = ? = 8.38 + 10.1399 = 18.5188$$

$$905. 75\% \text{ of } 75 + ? \text{ of } ? = 98.5 \\ \Rightarrow ?^2 = 98.5 - 56.25 = 42.25$$

$$\therefore ? = \sqrt{42.25} = 6.5$$

$$906. 385 + 124 - 39 - 523 + 782 - 815 + ? = 154$$

$$\therefore ? = 154 - (-86) = 154 + 86 = 240$$

$$907. \frac{(a+b)^2 - (a-b)^2}{ab} \quad a = 379, b = 184$$

$$\frac{4ab}{ab} = \frac{4 \times 379 \times 184}{379 \times 184} = 4$$

$$908. \text{Least number of 6 digits} = 100000$$

100000 when divided by 456 leaves the remainder 136

$$\therefore \text{Required number} = 100000 + (456 - 136) = 100320$$

$$909. \sqrt{\frac{289 \times 9}{17 \times 17}} = \sqrt{9} = 3$$

$$910. \sqrt{1225} \times 72 + 576 \div 72 = 35 \times 72 + 576 \\ \times \frac{1}{72} = 2520 + 8 = 2528$$

$$911. \sqrt[6]{6\sqrt{6\sqrt{6\sqrt{6\sqrt{6}}}}} \text{ squaring both the sides}$$

$$x^2 = 6\sqrt{6\sqrt{6\sqrt{6\sqrt{6}}}}; \quad x^4 = 6^2 \cdot 6\sqrt{6\sqrt{6\sqrt{6}}}$$

$$x^8 = 6^4 \cdot 6^2 \cdot 6\sqrt{6\sqrt{6}}$$

$$x^{16} = 6^8 \cdot 6^4 \cdot 6^2 \cdot 6\sqrt{6}; \quad x^{32} = 6^{16} \cdot 6^8 \cdot 6^4 \cdot 6^2 \cdot 6$$

$$x^{32} = 6^{16+8+4+2+1}$$

$$x = 6^{\frac{31}{32}}$$

$$912. \text{Given } (2^4)^{0.16} \times (2^4)^{0.04} \times (2)^{0.2} \\ = 2^{0.64} \times 2^{0.16} \times 2^{0.2} = 2^1 = 2$$

$$913. \sqrt[3]{2} \cdot \sqrt[3]{2} \cdot \sqrt[3]{3} \cdot \sqrt[3]{3}$$

$$2^{\frac{1}{3}} \times 2^{\frac{1}{3}} \times 3^{\frac{1}{3}} \times 3^{\frac{1}{3}} = 2^{\frac{2}{3}} \times 3^{\frac{2}{3}} = 6^{\frac{2}{3}}$$

$$914. \text{Mohan has Rs. } y \text{ \& Ram has Rs. } x$$

$$\therefore 2(x - 30) = y + 30$$

$$x + 10 = 3(y - 10) \Rightarrow 2x - y = 90, x - 3y = -40$$

$$\Rightarrow 6x - 3y = 270, x - 3y = -40 \Rightarrow 5x = 310$$

$$\Rightarrow x = 62, y = 34$$

$$915. SI = \frac{2500 \times 2 \times 4}{100} = \text{Rs. } 200$$

$$CI = 2500 \left(1 + \frac{4}{100}\right)^2 - 2500$$

$$= 2500 \times \frac{26}{25} \times \frac{26}{25} - 2500$$

$$= 2704 - 2500 = 204$$

$$\therefore CI - SI = \text{Rs. } 4$$

$$916. \text{Let the sum be 'P'}$$

$$\therefore P \left(1 + \frac{5}{100}\right)^3 - P = 252.20$$

$$P = 1600$$

$$\therefore SI = \frac{1600 \times 3 \times 5}{100} = \text{Rs. } 240$$

$$917. \text{Let } x \text{ be the sum}$$

$$\therefore x + x \times 5 \times \frac{10}{3} \times \frac{1}{100} = 7000$$

$$= x + \frac{x}{6} = 7000$$

$$\therefore x = 6000$$

$$918. \text{Given amount} = \text{Rs. } 20,000$$

$$\text{Total interest in 4 years} = 20,000 \times \frac{5}{100} \times 4 \\ = 4000$$

$$\text{Amount} = 20,000 + 4000 = 24,000$$

$$\therefore \text{Annual instalment} = \frac{24000}{4} = \text{Rs. } 6000$$

$$919. \text{Volume of the water in the swimming pool} =$$

$$32 \times 9.5 \left(\frac{4.5 + 2.5}{2}\right) = 1064 \text{ cubic metres}$$

$$920. \text{Let the speed of the goods train be } x \text{ km/hr}$$

$$\therefore 10x \text{ km/hr}$$

$$\therefore 10x = 80 \times 4 \Rightarrow x = 32 \text{ km/hr}$$

$$921. \text{Let the distance between A and B be } x \text{ km}$$

$$\therefore \frac{x}{50} - \frac{10}{60} = \frac{x}{30} - \frac{50}{60}$$

$$\Rightarrow \frac{x}{30} - \frac{x}{50} = \frac{50}{60} - \frac{10}{60} = \frac{2}{3}$$

$$\Rightarrow \frac{20x}{1500} = \frac{2}{3} = x = 50$$

$$922. 60 - 20\% = \text{Rs. } 48$$

$$48 - 30\% = \text{Rs. } 33.60$$

$$\text{Selling price} = \text{Rs. } 33.60 \times \frac{5}{100} = \text{Rs. } 1.68$$

$$\therefore \text{Selling price} = 33.60 + 1.68 = \text{Rs. } 35.28$$

923. Let the three numbers be x , y and z .

$$\therefore x = 20\% \text{ of } z = \frac{z}{5}$$

$$y = 50\% \text{ of } z = \frac{z}{2} \quad \therefore 5x = 2y$$

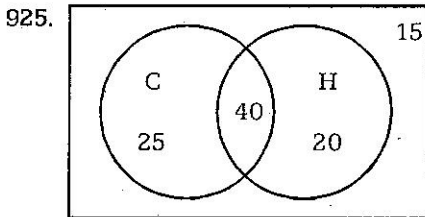
$$\Rightarrow x = \frac{2}{5}y = 40\% \text{ of } y$$

$$924. H + C = 48$$

$$2H + 4C = 140$$

$$2H = 52$$

$$H = 26, C = 22$$



$$\therefore 15\% = 90$$

$$\Rightarrow 100\% = \frac{90}{15} \times 100 = 600$$

$$926. (A + B)\text{'s one day's work} = \frac{1}{12}$$

$$A\text{'s one day's work} = \frac{1}{20} \text{ -----(1)}$$

$$\therefore B\text{'s one day's work} = \frac{1}{12} - \frac{1}{20} = \frac{1}{30}$$

$$B\text{'s half day's work} = \frac{1}{60} \text{ -----(2)}$$

$$\therefore (1) + (2) = \frac{1}{15} \text{ hr}$$

$\therefore A+B$ will complete in **15 days**

928. Let the speed of the boat in still water = x km/hr

Let the speed of the stream = y km/hr

Speed of the boat in downstream = $(x + y)$ km/hr

Speed of the boat in upstream = $(x - y)$ km/hr

$$\therefore x + y = 20 \text{ and } x - y = 10$$

$$x = 15, y = 5$$

$$930. \sqrt{5\sqrt{5\sqrt{5\sqrt{5}}}} = x$$

$$5\sqrt{5\sqrt{5\sqrt{5}}} = x^2$$

$$x^2 = 5x$$

$$x = 5$$

$$931. \frac{(10)^5}{\left[\left(2^7 \right)^{-5/3} \right]^{1/5}} = \frac{10}{(2)^{\frac{-5}{3} \times \frac{3}{7} \times \frac{-1}{5}}} = \frac{10}{2} = 5$$

933. Required rate of discount in percent

$$= \left[\left(\frac{9730 - 9250.5}{9730} \right) \times 100 \right]$$

$$= \frac{479.5 \times 100}{9730} = 5\%$$

$$934. \text{Nithya's share} = \frac{3800}{(3800 + 4600)} \times 945$$

$$= \frac{3800}{8400} \times 945 = \text{Rs. } 427.50$$

935. 6 workers dig 20 mts a day.

$$\therefore \text{One worker's one day work} = \frac{20}{4 \times 6}$$

$$\text{Two workers' one day work} = \frac{20 \times 2}{4 \times 6} = 1\frac{2}{3} \text{ m}$$

936. Required number of participants

$$= \frac{1540}{3.5} \times (3.5 + 4.5) = 3520$$

937. Let the labelled price of toy be Rs. x

$$= \frac{x \times 80}{100} = 300$$

$$x = \frac{300 \times 100}{8} = 375$$

$$\therefore \text{Profit \%} = \frac{405 - 375}{375} \times 100 = 8\%$$

$$940. (0.3)^{\frac{1}{3}} \times (0.9)^{\frac{4}{3}} \times 3^{\frac{2}{3} + \frac{1}{2} + \frac{5}{4}}$$

$$= (0.3)^{\frac{1}{3}} \times (0.9)^{\frac{2}{3}} \times 3^{\frac{4+6+15-9}{12}}$$

$$= (0.3)^{\frac{1}{3}} \times (0.3)^{\frac{2}{3}} \times 3^{\frac{2}{3} + \frac{4}{3}}$$

$$= (0.3)^{\frac{1+2}{3}} \times 3^{\frac{2+4}{3}} = 0.3 \times 3^2 = 2.7$$

941. Dolls hours days

$$1000 \quad 8 \quad 40$$

$$1500 \quad 10 \quad x$$

$$\frac{x}{4} = \frac{1500}{100} \times \frac{8}{10}$$

$$\frac{x}{40} = \frac{3}{2} \times \frac{4}{5}$$

$$x = 48$$

942. Speed = 4 kmph

$$4 \times \frac{5}{18} = \frac{10}{9} \text{ m/sec}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{2000}{\frac{10}{9}} = 1800 \text{ seconds}$$

$$= 30 \text{ minutes}$$

943. Volume of the tank = $3 \times 4 \times 2 = 24\text{m}^3$

∴ Maximum quantity of petrol that the tank can store = 24 m^3

$$= 24 \times 900 = 21.6 \text{ metric tonnes}$$

944. Selling price of one orange = Rs. $\frac{1}{11}$

$$\therefore 90\% \text{ of cost price} = \frac{1}{11}$$

New selling price of one orange is 110% of

$$\text{cost price} = \frac{1}{11} \times \frac{100}{90} \times \frac{110}{100} = \frac{1}{9} = 9$$

945. The speed of the train with relation to man

$$= (40 + 4) \text{ km/hr}$$

$$\therefore \text{length of the train} = 5 \frac{5}{8} \times 44 \times \frac{5}{18} \text{ metres}$$

$$= 68.75 \text{ metres}$$

946. Let the number be x

$$\therefore x + 17x = 162$$

$$18x = 162$$

$$x = 9$$

947. Area of trapezium = $\frac{1}{2}$ (sum of parallel sides)

× distance between them

$$= \frac{1}{2} \times (35 + 23) \times 15 = 435 \text{ cm}^2$$

$$949. 3\frac{1}{5} : 1\frac{3}{5} : 5\frac{1}{3} = ? = \frac{16}{5} : \frac{8}{5} : \frac{16}{3} = \frac{48}{15} : \frac{24}{15} : \frac{80}{15}$$

$$= 6 : 3 : 10$$

950. Let the individual runs scored by Mukesh and Girish be "X" and "Y" respectively. Thus, we get, (i) $(X = Y + 21)$ and (ii) $(X+Y) = 237 \Rightarrow X = 129$ and $Y = 108$.

951. The statement "C is lighter than A by 1%" is TRUE.

Let the weight of "A" be 100 units. Thus, B's weight would be $(100 + 10\% \text{ of } 100) = 110$ units. Hence, C's weight would be $(110 - 10\% \text{ of } 110) = 99$ units. Thus, "C" would be lighter than "A" by 1%

$$952. \quad \begin{array}{cccccccc} 4 & 8 & 20 & 48 & 144 & 288 & 864 & \\ & \nearrow & \nearrow & \nearrow & \nearrow & \nearrow & \nearrow & \\ & \times 2 & \times 3 & \times 2 & \times 3 & \times 2 & \times 3 & \end{array}$$

Thus, $8 \times 3 = 24$ (and not 20)

953. Let the required number be "N". Thus, we get, $3N + 4(1 \div N) = 13$

$$\Rightarrow 3N^2 + 4 = 13N \Rightarrow 3N^2 - 13N + 4 = 0$$

$$\Rightarrow 3N^2 - 12N - N + 4 = 0$$

$$\Rightarrow 3N(N - 4) - 1(N - 4) = 0$$

$\Rightarrow N = 4$ or $N = (1 \div 3)$. Since "N" must be an integer, $N = 4$ is taken as the correct choice.

954. Let A's investment be Rs. "X". Thus, we get,

$$\frac{\text{Profit for A}}{\text{Profit for B}} = \frac{(X) \times 12}{4000 \times 6} = \frac{3}{1} \Rightarrow X = \text{Rs. } 6000$$

955. Since, when the required number is divided by either 4 or 6, a remainder of 2 is left, the required number must be in multiples of the L.C.M. of 4 and 6, with an addition of 2. Since the L.C.M. of 4 and 6 is 12, the required number must be such that, after dividing it by 12, a remainder of 2 is left. Out of the given set of numbers, 170 is the required number; and hence the correct choice.

956. Value of the scooter = Rs.3,25,000(I)

$$\text{Insured Value} = 85\% \text{ of Rs. } 3,25,000 = \text{Rs. } 2,76,250 \text{(II)}$$

$$\text{The value paid by insurance company} = 90\% \text{ of Rs. } 2,76,250 = \text{Rs. } 2,48,625 \text{(III)}$$

$$\therefore \text{Required difference} = (I) - (III)$$

$$= 325000 - 248625 = \text{Rs. } 76375$$

$$958. \quad \begin{array}{cccccc} 0.3888 & 1.296 & 4.32 & 14.4 & 48 & ? \\ & \nearrow & \nearrow & \nearrow & \nearrow & \\ & \div 0.3 & \div 0.3 & \div 0.3 & \div 0.3 & \div 0.3 \end{array}$$

Thus, $(48 \div 0.3) = 160$

959. Total Work = $8 \times 36 = 288$ man-days. Now, in 10 days, eight men would complete $[8 \times 10 \times (1 \div 288)]$ portion of the work. Thus, the remaining portion would be $[(288 - 80) \div 288] = [13 \div 18]$. Now, after removal of 4 men, the remaining work would be completed by only four men.

Required no. of days

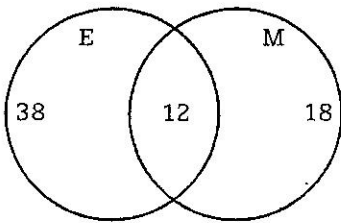
$$= \frac{\text{remaining work}}{1 \text{ days' work}} = \frac{13 \div 8}{4 \div 288} = 52$$

960. Let the number be "N". Thus, 200% of $N - 800 \Rightarrow N = 400$. Thus, 0.5% of 400 = 2

$$961. \text{ C.I.} = P \left(1 + \frac{R}{100} \right)^T - P$$

$$= 20000 (1 + 0.09)^2 - 20000 = \text{Rs. 3762}$$

962. See the Venn-diagram for failures drawn below :-



Failures

Total number of students who failed in either of these subjects = $(38 + 12 + 18) = 68$. Hence, the numbers of students who passed in both the subjects = $100 - 68 = 32$

963.	Water	+	Alcohol	=	Total
	3	+	27	=	30 litre
	+				
	X	+	-	=	X litre
	(3 + X)	+	27	=	(30 + X) litre

$$\text{Thus, } \frac{27}{(30 + X)} = 80\% = \frac{80}{100} = 0.8$$

$$\therefore 27 = 24 + 0.8X$$

$$\Rightarrow 0.8X = 3 \Rightarrow X = 3.75 \text{ litres}$$

964. Cost Price for 16 fruits = Rs. 24(I)

Sales Price for 8 fruits = Rs. 18(II)

\therefore Sales Price for 16 fruits = Rs. 36 (18×2) (III)

Thus,

$$\text{required gain} = \frac{36 - 24}{24} \times 100\% = 50\%$$

$$965. \frac{\text{A's share}}{\text{B's share}} = \frac{2000 \times 5}{3500 \times ?} = \frac{1440 - 840}{840} = \frac{600}{840}$$

$$= \frac{15}{21} = \frac{5}{7}$$

$$\therefore ? = \frac{7 \times 2000 \times 5}{5 \times 3500} = 4 \text{ months}$$

966. Let the speed of the boat in still water be "X" kmph. Thus, we have,

Speed = Distance \div Time. Hence, if the distance is taken as Y km, we get,

$$(X+3) = (Y \div 1) \text{ and } (X-3) = (Y \div 1.5). \text{ Thus, } (X+3) = (X-3) \times 1.5 = (1.5X) - 4.5 \Rightarrow (0.5X) = 7.5 \Rightarrow X = 15 \text{ km/hr.}$$

967. When 75 is divided by 13, we get the quotient as 5 and the remainder as 10. Further, $75 + 13 = 88$. Thus, it is the required pair. (Observe that the answer is obtained by "Trial and Error" method) Alternately, the mathematical solution is as follows:- Let the two numbers be "X" and "Y". Further, let "X" be the larger number and "Y" be the smaller one.

Hence, we get, $(X+Y) = 88$ and $X = 5Y + 10 \Rightarrow 6Y + 10 = 88 \Rightarrow Y = 13$. Hence, $X = 75$. Thus, the required pair is **75 and 13**.

968. Let the present ages of Chintu and Mintu be "7X" and "13X" years respectively. Thus, we get,

$$\frac{7X - 6}{13X - 6} = \frac{5}{11} \Rightarrow 77X - 66 = 65X - 30$$

$$\Rightarrow 12X = 36 \Rightarrow X = 3$$

Thus, the present age of Chintu would be $(7 \times 3) = 21$ years.

969. Required discount = $(30 + 25 - 30\% \text{ of } 25)\%$ = 47.5%

$$970. 4\frac{3}{5} - ? \frac{2}{3} + 2\frac{3}{7} = 4\frac{38}{105}$$

$$\therefore ? \frac{2}{3} = 4\frac{3}{5} + 2\frac{3}{7} - 4\frac{38}{105}$$

$$= (4 + 2 - 4) = \left(\frac{3}{5} + \frac{3}{7} - \frac{38}{105} \right)$$

$$\therefore ? \frac{2}{3} = 2 + \frac{63+45-38}{105} = 2 + \frac{70}{105}$$

$$= 2 + \frac{2}{3} = 2\frac{2}{3} \Rightarrow ? = 2$$

971. $600 \times 2 \frac{2}{5} \div 120 + 65 \times ? = 857$

$$\therefore 65 \times ? = 857 - 600 \times \frac{12}{5} \times \frac{1}{120}$$

$$= 857 - 12 = 845$$

$$\therefore ? = 845 \div 65 = 13$$

972. $\frac{128 \times 5 - 2.5 \times 64}{3.2 \times 15} = ?\% \text{ of } 200$

$$\therefore ?\% \text{ of } 200 = \frac{640 - 160}{48} = \frac{480}{48} = 10$$

$$\therefore ? = \frac{10 \times 100}{200} = 5$$

973. $18\% \text{ of } 47 + 34\% \text{ of } 72 = ?$

$$= 8.46 + 24.48 = 32.94$$

974. $28.59 + 61.398 - 7.24 - 44.859 = ? = 37.889$

975. $33529.8 \div ? = 4089$

$$\Rightarrow 33529.8 \div 4089 = 8.2$$

976. $3\frac{5}{6} + 7\frac{2}{5} - 2\frac{3}{7} = ?$

$$= (3 + 7 - 2) + \left(\frac{5}{6} + \frac{2}{5} - \frac{3}{7} \right)$$

$$\therefore ? = 8 + \frac{175 + 84 - 90}{210} = 8 + \frac{169}{210} = 8\frac{169}{210}$$

977. $48\% \text{ of } 35 + 22\% \text{ of } 78 - 28\% \text{ of } 64 = ?$

$$\therefore ? = 16.80 + 17.16 - 17.92 = 16.04$$

978. $7547 - 4816 = 2816 - ?$

$$\Rightarrow ? = 2816 - 2731 = 85$$

979. $476.52 - 135.03 + 79.6 = 251.8 + ?$

$$\Rightarrow ? = 169.29$$

980. $8190 \times ?\% \text{ of } 25 = 20475$

$$\Rightarrow ?\% \text{ of } 25 = 20475 \div 8190 = 2.5$$

$$\therefore ? = \frac{2.5 \times 100}{25} = 10$$

981. $\frac{4}{9} \text{ of } 40500 \div ? = 120$

$$= 18000 \div ? \Rightarrow ? = 150$$

982. $88\% \text{ of } 370 + 24\% \text{ of } 210 - ? = 118$

$$\therefore ? = 325.6 + 50.4 - 118 = 258$$

983. $6\frac{2}{5} \div 2\frac{1}{2} \times 2\frac{2}{5} = ? = \frac{32}{5} \times \frac{2}{5} \times \frac{12}{5} = 6.144$

984. For any two positive numbers "X" and "Y", we have, $(X) \times (Y) = (\text{L.C.M of X and Y}) \times (\text{H.C.F. of X and Y})$.

$$\therefore 100 \times ? = 200 \times 20 \Rightarrow ? = 40$$

985. Let the cost price of the article be Rs. "X". Thus, we get, $(X - 16\% \text{ of } X) = \text{Rs. } 168$
 $\Rightarrow X = \text{Rs. } 200$

986. Let the present ages of "A" and "B" be "2X" and "3X" years respectively. Hence, we get,

$$\frac{2X - 10}{3X - 10} = \frac{3}{5} \Rightarrow 10X - 50 = 9X - 30 \Rightarrow X = 20$$

Thus, B's present age = "3X" = $(3 \times 20) = 60$ years.

987. Profit for Chaitanya : Profit for Aditya = 12 : 15. Thus, if Chaitanya receives Rs. 1200 as his share of profit, Aditya would receive Rs. 1500 as his share. Thus, the overall profit = $(1200 + 1500) = \text{Rs. } 2700$

988. Required Average =

$$\frac{3.95 \times 6 - 2 \times 3.4 - 2 \times 3.85}{2} = 4.6$$

989. $21\frac{1}{5} \times 45\% \text{ of } 25 = ? = 21.2 \times 0.45 \times 25 = 238.5$

990. $27194 - 12486 + 5469 - 8643 = ? = 10534$

991. $4\frac{3}{7} \text{ of } 1071 + 2\frac{1}{8} \text{ of } 816 = ?$

$$\therefore ? = \left(\frac{31}{7} \times 1071 \right) + \left(\frac{17}{8} \times 816 \right)$$

$$= 4743 + 1734 = 6477$$

992. $\sqrt{\frac{143.65}{3.4}} = ? = \sqrt{42.25} = 6.5$

993. $61 \times 8 \times 41 = 252478$
 $\Rightarrow 61 \times 8 = 252478 \div 41 = 6158 \Rightarrow * = 5$

994. $81\sqrt{625} \div 5\frac{2}{5} + 176 - 87 = ?$
 $= 81 \times 25 \times \frac{5}{27} + 176 - 87$
 $\therefore ? = 375 + 176 - 87 = 464$

995. $14\frac{3}{5} - 8\frac{1}{4} + 12\frac{5}{6} = ?$
 $= (14 - 8 + 12) + \left(\frac{3}{5} - \frac{1}{4} + \frac{5}{6}\right)$
 $\therefore ? = 18 + \frac{36 - 15 + 50}{60} = 18 + \frac{71}{60} = 19\frac{11}{60}$

996. $3.48 \times 1.9 + 19.008 = 30\% \text{ of } ?$
 $= 6.612 + 19.008$
 $\therefore ? = 25.62 \div 0.3 = 85.4$

997. $3010 + 660 \div 60 + 380 = ?$
 $= 3010 + 11 + 380 = 3401$

998. $1549 - (615 - 382) - 2191 + 438 = 238 - ?$
 $\therefore 238 - ? = -437 \Rightarrow ? = 238 + 437 = 675$

999. Required Answer = $\frac{1100 \times 8 \times 3}{100}$

$+ \frac{1500 \times 10 \times 3}{100} = \text{Rs. } 714$

1000. $\frac{\text{Mohnish's Share of Profit}}{\text{Shishir's Share of Profit}} = \frac{80000 \times 12}{140000 \times 6} = \frac{8}{7}$

Hence, out of the total profit of

Rs. $(8 + 7 = 15)$, Shishir's share is Rs.7.

Hence, out of the total profit of Rs.37500,

Shishir's Share would be $(37500 \times 7 \div 15) =$
Rs.17500