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TEST NO. 51 SSC Mains (Maths) Answer with Explanation

1. (D) Total number of marbles kept in 50th box,
= sum of factors of 50
= 1 + 2 + 5 + 10 + 25 +50 = 93

2. (C) A.T.Q,
$\because (x^2 - y^2) + (y^2 - z^2) + (z^2 - x^2) = 0$
$\therefore (x^2 - y^2)^3 + (y^2 - z^2)^3 + (z^2 - z^2)^3$
$= 3(x^2 - y^2)(y^2 - z^2)(z^2 - x^2)$
$\because (x - y) + (y - z) + (z - x) = 0$
$\therefore (x - y)^3 + (y - z)^3 + (z - x)^3$
$= 3(x - y)(y - z)(z - x)$

$$\Rightarrow \frac{(x^2 - y^2)^3 + (y^2 - z^2)^3 + (z^2 - x^2)^3}{(x - y)^3 + (y - z)^3 + (z - x)^3}$$

$$= \frac{3(x^2 + y^2)(y^2 - z^2)(z^2 - x^2)}{3(x - y) + (y - z)(z - x)}$$

$$= \frac{3(x + y)(x - y)(y + z)(y - z)(z + x)(z - x)}{3(x + y)(y - x)(z - x)}$$

$= (x + y)(y + z)(z + x)$

3. (A) Let the two digits number be $10y + x$ where $x > y$
$\therefore 10x + y - 10y - x = 63$
$\Rightarrow 9x - 9y = 63$
$\Rightarrow x - y = 7$
$\therefore x = 7, 8, 9$ and $y = 0, 1, 2$
$\therefore$ possible values of x are 7, 8, 9

4. (A) For every $n \geq 4$;
n! will be divisible by 8
$\Rightarrow$ remainder will be zero
[becomes for $n \geq 4$, 8 will be a factor of n!]
So, remainder of 1! + 2! + 3! + 4! ..... + 100! will be equal to the remainder of 1! + 2! + 3! only
1! + 2! + 3! = 1 + 2 + 3
and $\frac{9}{8}$; R = 1

5. (D) H.C.F = A and L.C.M = B
$\Rightarrow A \times B = x \times y$
So, $A^3 + B^3 = (A + B)^3 - 3AB(A + B)$
$= (x + y)^3 - 3xy(x + y)$
$= x^3 + y^3 + 3xy(x + y) - 3xy(x + y)$
$= x^3 + y^3$

6. (A) $(x)^{\frac{1}{2}} = (y)^{\frac{1}{3}} \Rightarrow (x)^{\frac{1}{1}\times 3} = (y)^{\frac{1}{1}\times 2} = (x)^3 = (y)^2$

7. (C) Required average age of 2 persons

$$= \frac{30 + 34 + (8 \times 3)}{2} = 44 \text{ years}$$

8. (A) Required average age just before the birth of the youngest member

$$= \frac{(10 \times 20) - (10 \times 10)}{10 - 1} = \frac{100}{9} = 11.11 \text{ years}$$

9. (A) A.T.Q,

$$x = \frac{\sqrt{240}}{\sqrt{5} + \sqrt{3}} = \frac{\sqrt{20}\sqrt{12}}{\sqrt{5} + \sqrt{3}}$$

$$\frac{x}{\sqrt{20}} = \frac{\sqrt{12}}{\sqrt{5} + \sqrt{3}} = \frac{2\sqrt{3}}{\sqrt{5} + \sqrt{3}}$$

(Using componendo and dividendo)

$$\frac{x + \sqrt{20}}{x - \sqrt{20}} = \frac{2\sqrt{3} + \sqrt{5} + \sqrt{3}}{2\sqrt{3} - \sqrt{5} - \sqrt{3}}$$

$$\frac{x + \sqrt{20}}{x - \sqrt{20}} = \frac{3\sqrt{3} + \sqrt{5}}{\sqrt{3} - \sqrt{5}} \quad \text{....(i)}$$

$$\frac{x}{\sqrt{12}} = \frac{\sqrt{20}}{\sqrt{5} + \sqrt{3}}$$

(Using componendo and dividendo)

$$\frac{x + \sqrt{12}}{x - \sqrt{12}} = \frac{2\sqrt{5} + \sqrt{5} + \sqrt{3}}{2\sqrt{5} - \sqrt{5} - \sqrt{3}}$$

$$\frac{x + \sqrt{12}}{x - \sqrt{12}} = \frac{3\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}} \quad \text{....(ii)}$$

Adding equation (i) and (ii)

$$\frac{x + \sqrt{20}}{x - \sqrt{20}} + \frac{x + \sqrt{12}}{x - \sqrt{12}} = \frac{3\sqrt{3} + \sqrt{5}}{\sqrt{3} - \sqrt{5}} + \frac{3\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$$

$$= \frac{3\sqrt{3} + \sqrt{5} - 3\sqrt{5} - \sqrt{3}}{\sqrt{3} - \sqrt{5}}$$

$$= \frac{2\sqrt{3} - 2\sqrt{5}}{\sqrt{3} - \sqrt{5}} = \frac{2\left(\sqrt{3} - \sqrt{5}\right)}{\left(\sqrt{3} - \sqrt{5}\right)} = 2$$

10. (A) Average speed = $\frac{\text{Total distance covered}}{\text{Total time taken}}$

$$= \frac{(6 + 8 + 40)\,\text{km}}{(15 + 15 + 15)\,\text{min}} = \frac{54\,\text{km}}{45\,\text{min}} = \frac{54\text{km}}{\frac{45}{60}\text{hr}}$$

$= 72$ km/hr

11. (C) Age of the captain
= (11 × 30) – {(5 × 29) + (5 × 27)}
= (330 – 280) years = 50 years

12. (B) (2m + 4b) × 10 = (4m + 5b) × 6
⇒ 20m + 40b = 24m + 30b
⇒ 4m = 10b ⇒ 2m = 5b
So, 5b = 2 × 40

$\Rightarrow b = \frac{2 \times 40}{5} = 16$

∴ Required ratio = 40 : 16 = 5 : 2

13. (B) **In case I.**
Let the number of shirts of brand B be x.
Let the cost of a shirt of brand B be ₹ 1
∴ Original cost = 4 × 2 + x = (8 + x)
In case II.

$4 + 2x = (8 + x) \times \frac{140}{100} = (8 + x)\frac{7}{5}$

⇒ 20 + 10x = 56 + 7x
⇒ 10x – 7x = 56 – 20 = 36
⇒ 3x = 36 ⇒ x = 12
∴ Required ratio = 4 : 12 = 1 : 3

14. (C) Half the sum = 18
⇒ total sum = 36
⇒ Nos. will be 6, 12 and 18
So, ratio of squares = $6^2 : 12^2 : 18^2$
= 36 : 144 : 324

15. (B) A.T.Q,

$\frac{N}{6} = \frac{R}{4} = \frac{2}{5}S$

⇒ N : R : S

$= 6 : 4 : \frac{5}{2}$

= 12 : 8 : 5
⇒ Neelam's share

$= \frac{12}{(12+8+5)} \times 2250 = ₹\ 1080$

16. (A) S.P at 20% profit = ₹ 9/ litres

$\Rightarrow$ Cost of mixture = $\frac{9}{120} \times 100$
= ₹ 7.5/litres

Now, let the ratio of milk and water in the mixture = $x : y$

$\Rightarrow \frac{(10 \times x) + (0 \times y)}{x + y} = 7.5$

⇒ 10x = 7.5 (x + y)
⇒ 2.5x + 7.5y
⇒ x = 3y
⇒ $x : y$ = 3 : 1

17. (D) Ratio of equivalent capitals of A, B and C for 1 month,
= (40500 × 6 + 45000 × 6) : (45000 × 12) : (60000 × 6 + 45000 × 6)
= (405 + 450) : (450 × 2) : (600 + 450)
= 855 : 900 : 1050
= 171 : 180 : 210
= 57 : 60 : 70
Sum the ratio = 57 + 60 + 70 = 187

Required difference = $\frac{70 - 57}{187} = 56100$

$= \frac{13}{187} \times 56100 = ₹\ 3900$

18. (A) Let the cost price of 1 orange = ₹ 1

∴ C.P of 1 banana = ₹ $\frac{3}{4}$

and C.P of 1 apple = ₹ $\frac{3}{2}$

New price:
1 orange = ₹ 1.1

1 banana = $\frac{3}{4} \times \frac{110}{100}$ = ₹ 0.825

1 apple = $\frac{3}{2} \times \frac{110}{100}$ = ₹ 1.65

∴ Original price of (4 bananas + 2 apples + 3 oranges)
= ₹ (3 + 3 + 3) = ₹ 9
= ₹ (3.3 + 3.3 + 3.3) = 9.9
∴ Percentage increase

$= \frac{9.9 - 9}{9} \times 100 = 10\%$

19. (A) Let the number be x
⇒ % change

$= \frac{\text{original result} - \text{changed result}}{\text{original result}} \times 100\%$

$= \frac{5x - \frac{x}{5}}{5x} \times 100\% = \frac{25x - x}{25x} \times 100\%$

$= \frac{24x}{25x} \times 100\% = 96\%$

20. (C) 20% decrease in price
⇒ 25% increase in consumption
(when expenditure is constant)

⇒ increased amount of sugar = 25% of 20kg
= 5 kg
⇒ Total amount now of sugar = (20 + 5) kg
= 25 kg

21. (C) Votes got by Candidate A

$= (100 - 10)\%$ of $\frac{4}{5}$ of total voters

$= 90\%$ of $\frac{4}{5}$ of total voters

$= \frac{9}{10} \times \frac{4}{5}$ of total voters

$= \frac{18}{25}$ of total voters

$= 216$ voters .....(i)

Now, votes got by Candidate B

$= (100-20)\%$ of $\left(1 - \frac{4}{5}\right)$ th of the total voters

$= 80\%$ of $\frac{1}{5}$th of total voters

$= \frac{4}{5} \times \frac{1}{5}$ of total voters

$= \frac{4}{25}$ of total voters

$= \frac{216}{18} \times 4 = 48$ voters

So, total number of votes polled
= (216+48) votes = 264 votes

22. (D) $\cos x = \frac{2\cos y - 1}{2 - \cos y}$

Let y = 60°

$\cos x = \frac{2 \times \frac{1}{2} - 1}{2 - \frac{1}{2}}$

$\Rightarrow x = 90°$

Then,

$\tan\left(\frac{x}{2}\right) \cot\left(\frac{y}{2}\right) = \tan 45° \cot 30° = \sqrt{3}$

23. (C) If the C.P of wrist watch be ₹ x then
C.P of wall clock = ₹ $(390 - x)$

So, $\frac{x \times 10}{100} + \frac{(390 - x) \times 15}{100} = 51.50$

$\Rightarrow 10x + 5850 - 15x = 5150$

$\Rightarrow 5x = 5850 - 5150 = 700$

$\Rightarrow x = \frac{700}{5} = ₹ 140$

$\therefore$ C.P of wall clock = 390 – 140 = ₹ 250

$\therefore$ Required difference = 250 – 140 = ₹ 110

24. (A) $\because$ (40 – 20)% = ₹ 1

So, 120% = $\frac{1}{20} \times 120 = ₹ 6$

25. (B) Required Marked price

$= 210 \times \frac{120}{100} \times \frac{100}{(100 - 12.5)}$

$= 210 \times \frac{120}{87.5} = ₹ 288$

26. (D) Let the C.P = x
So, S.P in 1st case = $1.05x$
now, C.P in 2nd case = $0.95x$
and S.P in 2nd case = $1.05x - 2$
Now, A.T.Q,
$0.95x \times 1.1 = 1.05x - 2$
or, $1.045x = 1.05x - 2$
$\Rightarrow 1.05x - 1.045x = 2$
$\Rightarrow 0.005x = 2$

$\Rightarrow x = \frac{2}{0.005} = ₹400$

27. (C) Discount on ₹ 36000 = $\frac{36000 \times 7}{100} = ₹ 2520$

Discount on first ₹ 20,000 = $\frac{20000 \times 8}{100}$
= ₹ 1600

Discount on next ₹ 10,000 = $\frac{10,000 \times 5}{100}$
= ₹ 500

$\therefore$ Discount on remaining ₹ 6,0000
= 2520 – (1600 + 500) ₹ 420

$\therefore$ Required percent = $\frac{420 \times 100}{6000} = 7\%$

28. (A) A.T.Q,
$\sin^2\alpha + \sin^2\beta + \cos^2\gamma = 3$
Let $\alpha = \beta = 90°$ and $\gamma = 0°$

$\tan\left(\frac{\alpha + \beta + \gamma}{4}\right) + \cot\left(\frac{\alpha + \beta + \gamma}{4}\right)$

$= \tan\left(\frac{180°}{4}\right) + \cot\left(\frac{180°}{4}\right)$

$= \tan 45° + \cot 45°$
$= 1 + 1 = 2$

29. (D) A.T.Q,

$4\cos20° - \sqrt{3}\cot20° = 4\cos20° - \sqrt{3}\frac{\cos20°}{\sin20°}$

$= \frac{4\sin20°\cos20° - \sqrt{3}\cos20°}{\sin20°}$

$= \frac{2.2\sin20°\cos20° - \sqrt{3}\cos20°}{\sin20°}$

$= \frac{2\sin40° - \sqrt{3}\cos20°}{\sin20°}$

$= \frac{2\left[\sin40° - \frac{\sqrt{3}}{2}\cos20°\right]}{\sin20°}$

$= \frac{2[\sin40° - \sin60°\cos20°]}{\sin20°}$

$= \frac{2\sin40° - 2\sin60°\cos20°}{\sin20°}$

$= \frac{2\sin40° - \sin80° - \sin40°}{\sin20°}$

$= \frac{\sin40° - \sin80°}{\sin20°}$

$= \frac{2\cos60°.(-\sin20°)}{\sin20°} = -1$

30. (D) Let x be the required annual payment
So, also, r = 10% p.a and t = 3 years

$\left[1 \xrightarrow{+10\%} 1.1\right]$

So, $(1 + 1.1 + 1.21)x = 3310 \times (1.1)^3$
or, $3.31x = 3310 \times 1.331$

$x = \frac{3310 \times 1.331}{3.31}$ = ₹ 1331

31. (C) $A = P\left(1+\frac{R}{100}\right)^T$

$\Rightarrow 3 = 1\left(1+\frac{R}{100}\right)^3$

On squaring both sides,

$9 = 1\left(1+\frac{R}{100}\right)^6$

32. (A) Cash price of refrigerator

$= 1500 + \left(1020 \times \frac{10}{11}\right) + \left(1003 + \frac{100}{121}\right) + \left(990 \times \frac{1000}{1331}\right)$

$= 1500 + \left\{\frac{(10200 \times 121) + (100300 \times 11) + 990000}{1331}\right\}$

$= 1500 + \left(\frac{1234200 + 1103300 + 990000}{1331}\right)$

$= 1500 + \frac{3327500}{1331}$

= 1500 + 2500 = ₹4000

33. (D) When B works normally then days taken by B to complete the work

$= \frac{20 \times 12}{20 - 12}$ days = 30 days

Now, If B does the work only half a day daily,
⇒ B will take twice the total days to complete the whole work alone
⇒ Now number of days taken by B,
= (30 × 2) days = 60 days
So, Now days taken by (A + B) together to do the whole work = $\frac{20 \times 60}{20 + 60}$ = 15 days

34. (A) A.T.Q,

$u_n = \cos^n\delta + \sin^n\delta$

$2u_6 - 3u_4 + 2 = 2(\cos^6\delta + \sin^6\delta) - 3(\cos^4\delta + \sin^4\delta) + 2$

Let $\delta = 0°$

2 – 3 + 2 = 1

35. (C) Let days taken by A to do the whole work = x days
So, days taken by B to do the whole work = $(x - 5)$ days
and, days taken by C to do the whole work = $(x - 9)$ days
Now, A.T.Q,
Days taken by (A + B) together to do the whole work = Days taken by C alone to do the whole work

$\Rightarrow \frac{x(x-5)}{x + (x-5)} = x - 9$

or, $x^2 - 5x = (x - 9)(2x - 5)$
or, $x^2 - 5x = 2x^2 - 5x - 18x + 45$
or, $x^2 - 18x + 45 = 0$
or, $x^2 - 15x - 3x + 45 = 0$
or, $x(x - 15) - 3(x - 15) = 0$
or $(x - 3)(x - 15) = 0 \Rightarrow x = 3$ or 15
but $x = 3$ is not possible as $x - 5$ or $x - 9$ will become negative.
So, x = 15 days

36. (B) Time $\alpha \frac{1}{\text{cross – sectional area of the pipe}}$

Time $\alpha \frac{1}{\frac{\pi}{4}d^2}$

Time $\alpha \frac{1}{d^2}$

$\therefore \frac{t_2}{t_1} = \frac{(d_1)^2}{(d_2)^2}$

So, $t_2 = t_1\left(\frac{d_1}{d_2}\right)^2$

t_1 = 40 minutes, d_1 =d, d_2 = 2d

$\therefore t_2 = 40\left(\frac{d}{2d}\right)^2$

$t_2 = 40\left(\frac{1}{2}\right)^2$

t_2 = 10 minutes

$\Rightarrow$ time taken by a pipe of diameter 2d for doing the same job = 10 minutes

37. (C) Let the capacity of the tank be x gallons.

Quantity of water filled in the tank in 1 minutes when all the pipes A, B and C are opened simultaneously = $\frac{x}{20}+\frac{x}{24}-3$

According to the question, $\frac{x}{20}+\frac{x}{24}-3$

$= \frac{x}{15}$

$\Rightarrow \frac{x}{20}+\frac{x}{24}-\frac{x}{15}=3$

$\Rightarrow \frac{6x+5x-8x}{120}=3$

$\Rightarrow 3x = 3 \times 120$

$\Rightarrow x = \frac{3\times120}{3}$ = 120 gallons

38. (A) A.T.Q,

$\sec^2\theta = \frac{4xy}{(x+y)^2}$

$\cos^2\theta = \frac{(x+y)^2}{4xy}$

$0 \le \cos^2\theta \le 1$

$\frac{(x+y)^2}{4xy} \le 1$

$\frac{(x+y)^2}{4xy} \le 1$

$(x+y)^2 \le 4xy \Rightarrow x^2+y^2+2xy-4xy \le 0$

$(x-y)^2 \le 0$

We know that square of any number can not be negative possible.

So, $(x-y)^2 = 0$

$x = y$

39. (D) In the race between Sonu and Monu. Distance travelled by Sonu and Monu in same time = 600 metres and (600 – 60) metres = 600 metres and 540 metres

$\Rightarrow$ In the same time,

Ratio of distance travelled by Sonu and Monu = 10 : 9

Similarly,

In the same time

Ratio of distance travelled by Monu and Bablu = 500 : (500 – 25)

= 500 : 475

= 20 : 19

So, In the same time,

Ratio of distance travelled by Sonu, Monu and Bablu.

= 10 × 20 : 9 × 20 : 9 × 19

= 200 : 180 : 171

$\Rightarrow$ When Sonu travels 200m, Bablu will travel 171 m.

$\Rightarrow$ In 400 me race between Sonu and Bablu required number of metres by which Sonu will win the race,

= 400m – 342 m = 58 m

40. (A) Let x = length of the faster train in (in metres),

So, 36 seconds = $\frac{x}{(40-20)\text{kmph}}$

$\Rightarrow x$ = 36 second × 20 × $\frac{5}{18}$ m / sec

= 200 metres

41. (A) Speed of boat in still water = $\frac{S_{down}+S_{up}}{2}$

$= \frac{x+y}{2} = 0.5\,(x+y)$

42. (C) Expression,
= 4 + 44 + 444 +..... to n terms
= 4(1 + 11 + 111+..... to n terms)

$= \frac{4}{9}$(9 + 99 + 999+..... to n terms)

$= \frac{4}{9}$[(10 – 1) + (100 – 1) + (1000 – 1)+ .... to n terms]

$= \frac{4}{9}$[(10 + 10^2 + 10^3+..... to n terms) –n]

$= \frac{4}{9}$[10(1 + 10 + 10^2+..... to n terms) – n]

$= \frac{40}{9}\left(\frac{10^n-1}{9}\right) - \frac{4}{9}n$

$[\because 1 + 10 + 102 + \ldots \text{ to n terms} = \frac{10^n-1}{9}]$

$= \frac{40}{81}(10^n - 1) - \frac{4}{9}n$

43. (A) $a^4 + b^4 = a^4 + b^4 + 2a^2b^2 - 2a^2b^2$

$= (a^2+b^2)^2 - (ab\sqrt{2})^2$

$= (a^2 + b^2 + ab\sqrt{2})(a^2 + b^2 - ab\sqrt{2})$

$\Rightarrow \frac{a^4+b^4}{a^2 - ab\sqrt{2} + b^2}$

$= \frac{(a^2 + b^2 + ab\sqrt{2})(a^2 + b^2 - ab\sqrt{2})}{a^2 - ab\sqrt{2} + b^2}$

$= a^2 + b^2 - ab\sqrt{2} = x - y$

$\Rightarrow x = a^2 + b^2$

$x^2 = a^4 + b^4 + 2a^2b^2$

$y^2 = 2a^2b^2$

$\Rightarrow x^2 - y^2 = a^4 + b^4$

$\frac{a^4+b^4}{a^2 - ab\sqrt{2} + b^2} = \frac{x^2-y^2}{x-y} = x + y$

44. (D) $(x - a)(x - b) = 1 \Rightarrow (x - b) = \frac{1}{(x-a)}$

$(x - a - 5) = \frac{1}{(x-a)}$ ($\because a + 5 = b$)

$(x - a) - \frac{1}{(x-a)} = 5$

(Taking cube both sides)

$(x - a)^3 - \frac{1}{(x-a)^3} - 3(5) = 125$

$(x - a)^3 - \frac{1}{(x-a)^3} = 140$

45. (C) Let x be the required number and a be its first part
so, $(x - a)$ will be its second part,
Now, A.T.Q,
$0.8a = 0.6(x - a) + 3$
or, $0.8a + 0.6a = 0.6x + 3$
or, $1.4a = 0.6x + 3$

$\Rightarrow a = \frac{0.6x+3}{1.4}$ ....(i)

Also,
$0.9a + 6 = 0.8(x - a)$
or, $0.9a + 0.8a = 0.8x - 6$
or, $1.7 = 0.8x - 6$

$\Rightarrow a = \frac{0.8x-6}{1.7}$ ....(ii)

From equation (i) and (ii),

$\frac{0.6x+3}{1.4} = \frac{0.8x-6}{1.7}$

$\Rightarrow 1.02x + 5.1 = 1.12x - 8.4$
$\Rightarrow 0.1x = 13.5$

$\Rightarrow x = \frac{13.5}{0.1} = 135$

46. (B) Adding 1 in all terms,

$\left(\frac{a^2-bc}{a^2+bc}+1\right)\left(\frac{b^2-ac}{b^2+ac}+1\right)+\left(\frac{c^2-ab}{c^2+ab}+1\right)$

= 1+1+1+1

$\left(\frac{2a^2}{a^2+bc}\right)\left(\frac{2b^2}{b^2+ac}\right)+\left(\frac{2c^2}{c^2+ab}\right) = 4$

$\frac{a^2}{a^2+bc}+\frac{b^2}{b^2+ac}+\frac{c^2}{c^2+ab} = 2$

47. (A) A.T.Q

$18.75\% = \frac{3}{16}$

	CP		SP
I-article	16	+3	19
II-article	22	-3	19

Loss percentage on second–II article

$= \frac{3}{22} \times 100 = 13.63\%$

48. (B) A.T.Q,
Let x = $\sqrt{x^2 - x + 1}$

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

Minimum value of $x + \frac{1}{x} = 2$

$\Rightarrow x + \frac{1}{x} \geq 2 = 2 - x^2 \geq 2$

$\Rightarrow 0 \geq x^2,\ x^2 \leq 0$
It is possible, when $x = 0$
that why the value of x equal to 1 possible

49. (C) A.T.Q,
$x^2 - 2(k-1)x + (2k+1) = 0$
For equal roots D = 0 $\Rightarrow b^2 - 4ac = 0$
$\therefore [-2(k-1)]^2 - 4(1)(2k+1) = 0$
$4(k^2 + 1 - 2k) - 4(2k+1) = 0$
$4k^2 + - 8k - 8k - 4 = 0$
$4k^2 - 16k = 0$
$4k - 16 = 0$
$4k = 16 \Rightarrow k = 4$

50. (A) C.P of each book sold by publisher
$= ₹\frac{70,000}{2000-400} = ₹\ 43.75$
S.P of each book sold by publisher
= (100 – 30)% of ₹ 75 = ₹ 52.5
So, % gain = $\frac{52.5-43.75}{43.75}\times 100\%$
($\because$ S.P > C.P)
= 20% gain

51. (D) $x = a = 1$, $y = b = 2$, $z = c = 3$
$= \frac{1-4}{3(-1)} + \frac{4-9}{5(-1)} + \frac{9-1}{4(2)}$
$= \frac{-3}{-3} + \frac{-5}{-5} + \frac{8}{8} = 1+1+1 = 3$

52. (C) $15\sin^3\alpha + 20\cos^3\alpha = 12$
$\Rightarrow \frac{15}{12}\sin^3\alpha + \frac{20}{12}\cos^3\alpha = 1$
$\left(\frac{5}{4}\sin\alpha\right)\sin^2\alpha + \left(\frac{5}{3}\cos\alpha\right)\cos^2\alpha = 1$
$\Downarrow$ $\Downarrow$
1 1
To making in the form of $\sin^2\alpha + \cos^2\alpha = 1$
We put the value of
$\frac{5}{4}\sin\alpha = 1$ and $\frac{5}{3}\cos\alpha = 1$
Now, $\sin\alpha = \frac{4}{5}$ and $\cos\alpha = \frac{3}{5}$
Hence,
$\Rightarrow 10\sin\alpha + 15\cos\alpha = 10\times\frac{4}{5} + 15\times\frac{3}{5}$
$= 8 + 9 = 17$

53. (B) Required ratio = (15 × 22) : (11 × 25)
= 330 : 275 = 6 : 5

54. (D) Let ₹ x = quarterly payment
given, r = 16% per annum
So, rate of interest per quarter
$= \frac{16}{4}$ = 4% per quarter
Also,
No. of quarters in 2 years = 4 × 2
= 8 quarter
So, $8x + (7+6+4+3+2+1)\times 4\%$ of $x = 2280$
or, $8x + \left(\frac{7\times 8}{2}\right)4\%$ of $x = 2280$
$\left[\because 1+2+3+.....+n = \frac{n(n+1)}{2}\right]$
or, $8x$ + 112% of x = 2280
or 800% of x + 112% of x = 2280
$\Rightarrow$ 912% of x = 2280
So, $x = \frac{2280\times 100}{912}$ = ₹ 250

55. (A) $\sin 6°\sin 42°\sin 66°\sin 78° = ?$
$\frac{\sin 6°\sin 54°\sin 66°}{\Downarrow}\cdot\frac{\sin 42°\sin 78°}{\sin 54°}$
$= \frac{\left(\frac{1}{4}\sin 18°\right).\sin 42°.\sin 78°}{\sin 54°}$
$= \frac{1}{4}\times\frac{1}{4}\sin 54°.\frac{1}{\sin 54°} = \frac{1}{16}$

56. (A) $9\cos^2 x - 6\sin x.\cos x + \sin^2 x + (\sin^2 x + \cos^2 x)$
$\Downarrow$
1
$= (3\cos x - \sin x)^2 + 1$
$\Downarrow$
0
[$\because$ Minimum value of $10 + x^2$ = 10]
Then minimum value = 1
For maximum value
$(3\cos x - \sin x)^2 + 1 = \left(\sqrt{3^2+1}\right)^2 + 1 = 11$
Hence, maximum value = 11
minimum value = 1

57. (A) Let time taken by B in completing the work = x days
$\therefore$ Time taken by A (x – 10) days
$\therefore \frac{1}{x} + \frac{1}{x-10} = \frac{1}{12}$
$\Rightarrow \frac{x-10+x}{x(x-10)} = \frac{1}{12}$
$\Rightarrow 24x - 120 = x^2 - 10x$
$\Rightarrow x^2 - 34x + 120 = 0$
$\Rightarrow x^2 - 30x - 4x + 120 = 0$
$\Rightarrow x(x-30) - 4x(x-30) = 0$
$\Rightarrow (x-4)(x-30) = 0$
$\Rightarrow x - 30$ because $x \neq 4$

58. (B) $5\alpha + 4\alpha = 90°$
$\alpha = 10°$
$2\sin 30° - \sqrt{3}\tan 30° = 2\times\frac{1}{2} - \sqrt{3}\times\frac{1}{\sqrt{3}} = 0$

59. (B) Let speed of car = x km/hr
Here, Distance covered by the car in 27 minutes = Distance covered by the sound in (28 minutes 30 seconds – 27 minutes)

$\Rightarrow x \text{ km/hr} \times \left(\frac{27}{60}\right) \text{hr}$

$= \left(330 \times \frac{18}{5} \text{km/hr}\right) \times \left(\frac{1.5}{60} \text{hr}\right)$

$\Rightarrow x = 330 \times \frac{18}{5} \times \frac{1.5}{60} \times \frac{60}{27} = 66$

$\Rightarrow$ speed of car = 66 km/hr

60 (B) $\sin x + \cos x = c$
Squaring both sides
$\sin^2 x + \cos^2 x + 2\sin x.\cos x = c^2$

$\sin x.\cos x = \frac{c^2 - 1}{2}$

We know that,
$\sin^6 x + \cos^6 x = 1 - 3\sin^2 x.\cos^2 x$

$= 1 - 3\left(\frac{c^2 - 1}{2}\right)^2$

$= 1 - 3\left(\frac{c^4 + 1 - 2c^2}{4}\right) = \frac{1 + 6c^2 - 3c^4}{4}$

61. (C) A(λ, 2 – 2λ), B($-\lambda + 1, 2\lambda$) and C ($-4 - \lambda$, 6 – 2λ)
Area of ΔABC,

$\Delta = \frac{1}{2}\left(x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)\right)$

$\{\lambda(2\lambda - 6 + 2\lambda) + (-\lambda + 1)(6 - 2\lambda - 2 + 2\lambda)\}$
$+(-4 - \lambda)(2 - 2\lambda - 2\lambda)$

$140 = (4\lambda^2 - 6\lambda + 4 - 4\lambda - 8 + 16\lambda - 2\lambda + 4\lambda^2)$

$140 = 8\lambda^2 + 4\lambda - 4$

$2\lambda^2 + \lambda - 36 = 0$

$2\lambda^2 + 9\lambda - 8\lambda - 36 = 0$

$\lambda(2\lambda + 9) - 4(2\lambda + 9) = 0$

$(\lambda - 4)(2\lambda + 9) = 0$

$\lambda = 4, \frac{-9}{2}$

The integer value of λ is 4

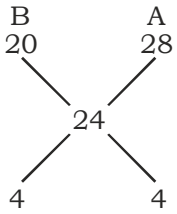
62. (A) Quality
B $\leq$ A
x $x + 8$

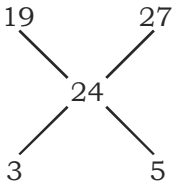
11 units $\longrightarrow$ ₹ 264

10 units $\longrightarrow$ ₹ 240

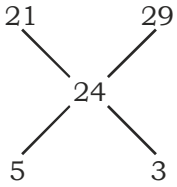
CP of paint are = ₹ 240

Case – I **Case–II**





Case – III



In cases (II) and (III)
B > A
So, case – (I) is true

63. (D) Let 'a' and 'b' are those two numbers.
$\Rightarrow a^2 + b^2 = 97$
$\Rightarrow a^2 + b^2 - 2ab = 97 - 2ab$
$\Rightarrow (a - b)^2 = 97 - 2ab$
We know that $(a - b)^2 \geq 0$
$\Rightarrow 97 - 2ab \geq 0$
$\Rightarrow ab \leq 48.5$
Hence, $ab \neq 0$

64. (D) S = 7×11+11×15+15×19+....+95 × 99
Nth term of the series can be written as $T_n = (4n + 3) \times (4n + 7)$
Last term, (4n + 3) = 95 i.e n = 23

$\sum_{n=0}^{n=23} (4n + 3) \times (4n + 7)$

$\Rightarrow \sum_{n=0}^{n=23} 16n^2 + 40n + 21$

23 × 24 × 47 23 × 24
$\Rightarrow$ 16 × 23 × 4 × 47 + 40 × 23 × 12 + 21
$\Rightarrow$ 80245

65. (D) It is given that $N^N = 2^{160}$
We can rewrite the equation as
$N^N = (2^5)^{160/5} = 32^{32}$
$\Rightarrow N = 32$
$N^2 + 2^N = 32^2 + 2^{32} = 2^{10} \times (1 + 2^{22})$
Hence, we can say that $N^2 + 2^N$ can be divided by 2^{10}
Therefore, $X_{max} = 10$

66. (C) Let 't' pm the time when the tank is the emptied everyday. Let 'a' and 'b' be the litres/hr filled by pump A and pump B respectively,
On Monday, A alone completed filling the tank at 8 pm. Therefore we can say that pump A worked for (8 – t) hours. Hence, the volume of the tank = a×(8 – t) litres
Similarly, on Tuesday, B alone completed filling the tank at 6 pm.

Therefore we can say that pump B worked for (6 – t) hours. Hence the volume of the tank = b × (6 – t) lites

On Wednesday, A alone worked till 5pm, and then B worked alone from 5 pm to 7 pm to fill the tank. Therefore we can say that pump A worked for (5 – t) hours and pump B worked for 2 hours. Hence the volume of the tank = a×(5 – t) + 2b litres

We can say that a (8 – t) = b × (6 – t) = a × (5 – t) + 2b

a × (8 – t) = a×(5 – t) + 2b

$\Rightarrow$ 3a = 2b ....(i)

a × (8 – t) = b × (6 – t)

Using equation (i), we can say that

$$a \times (8 - t) = \frac{3a}{2} \times (6 - t)$$

t = 2

Therefore, we can say that the tank gets emptied at 2 pm daily. We can see that A takes 6 hours and pump B takes 4 hours alone.

Hence, working together both can fill the tank in = {6 × 4}/{6 + 4} = 2.4 hours or 2 hours and 24 minutes.

The pumps started filling the tank at 2:00pm. Hence the tank will be filled by 4 : 24 pm

67. (B) Let 'a', 'b' and 'c' be the contraction of salt in solutions A, B and C respectively.

It is given that three salt solutions A, B, C are mixed in the proportion 1 : 2 : 3, then the resulting solution has strength 20%

a + 2b + 3c

$\Rightarrow$ 1 + 2 + 3 = 20

$\Rightarrow$ a + 2b + 3c = 120 ....(i)

If instead the proportion is 3 : 2 : 1, then the resulting solution has strength 30%

3a + 2b + c

$\Rightarrow$ 1 + 2 + 3 = 30

$\Rightarrow$ 3a + 2b + c = 180 ....(ii)

From equation (i) and (ii), we can say that

$\Rightarrow$ b + 2c = 45

$\Rightarrow$ b = 45 – 2c

Also, on subtracting (i) and (ii) we get

a – c = 30

$\Rightarrow$ a = 30 + c

In solution D, B and C are mixed in the ratio 2 : 7

So, the concentration of salt in

$$D = \frac{2b + 7c}{9} = \frac{90 - 4c = 7c}{9} = \frac{90 + 3c}{9}$$

$$\frac{90+3c}{90 + 3c}$$

Required ratio = 9a = 9(30+c) = 1 : 3

68. (A) A.T.Q,

Let the CP of table = T

CP f chair = C

$$T \times \frac{25}{3}\% = C \times \frac{25}{2}$$

$$\Rightarrow \frac{T}{C} = \frac{3}{2} \quad ....(i)$$

$$T \times \frac{25}{2}\% - C \times \frac{25}{3}\% = 25$$

3T – 2C = ₹ 600 ....(ii)

Putting the value of T in equation (ii),

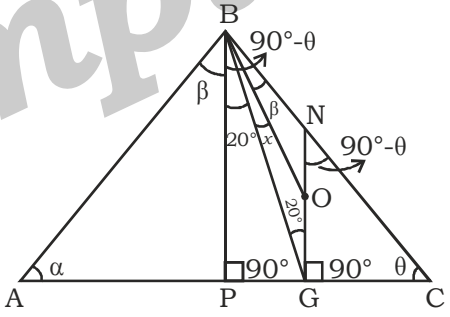
$$3 \times \frac{3}{2}C - 2C = ₹\ 600$$

$$\Rightarrow \frac{9}{2}C - 2C = ₹\ 600$$

$$\Rightarrow \frac{5C}{2} = ₹\ 600$$

C = ₹ 240

69. (A) A.T.Q,



$\angle\alpha - \angle\theta = 33°$

Draw an altitude from B on side AC, OG parallel to BP.

In ΔBGO and ΔPBG,

$\angle G = \angle B = 20°$

Line OG extended to side AC

$\angle GNC = 90° - \theta$

In ΔPBC and ΔGNC

$\angle N = \angle B = 90° - \theta$

Now, In ΔPBC,

$20° + x° + \beta = 90° - \theta$ ....(i)

In ΔABP,

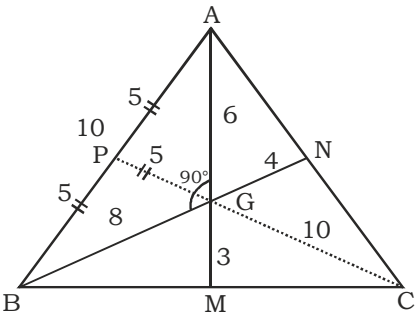
$\alpha + \beta = 90°$ ....(ii)

From equation (i) and (ii),

$20° + x° + 90 - \alpha = 90° - \theta$

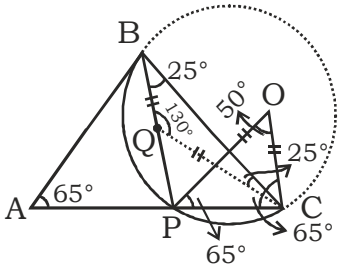
$\Rightarrow x° = \alpha - \theta - 20° = 33° - 20° = 13°$

70. (B) A.T.Q,



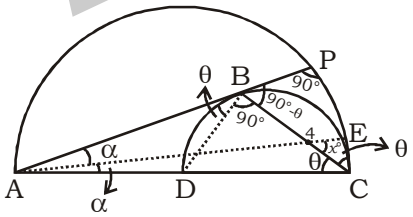
Draw a line from G on side AB
$\because$ GP is angle bisector of $\angle G$
$\therefore$ AP = BP = GP = 5 cm
$\because$ G is centroid and CP is median ,
1 unit = 5 cm
2 units = 10 cm

71. (B) A.T.Q,



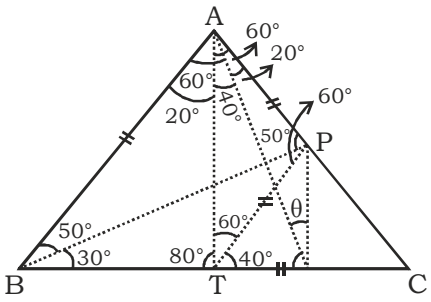
Draw a line from Q to C
In ΔABC,
$\because$ $\angle G = 65°$
$\therefore$ $\angle Q = 2\angle A = 130°$
Draw a circle from O
$\angle PBC = 25°$, $\angle POC = 50°$
OC = OP = radius
So, In ΔOPC,
$\angle P = \angle C = 65°$

72. (A) A.T.Q,

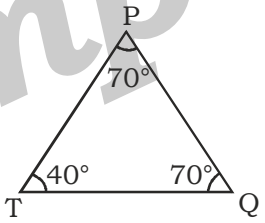


$\because$ AE is angle bisector of $\angle A$
So in ΔPAE and ΔEAC.
Draw lines from B to D and P to C
$\Delta ABD = \theta$
Now, in $\Delta CPC = 90° - \theta$
In ΔAPC
$2\alpha + 2\theta + 90° = 180°$
$\alpha + \theta = 45°$
$x = 45°$
$\because$ x is the sum of interior angle,

73. (C) A.T.Q,

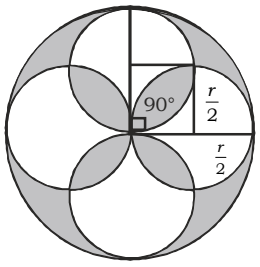


In ΔAPB $\angle P = 50°$
and $\angle B = 50°$
So, sides
AB = AP
Now, In ΔAQB,
$\angle Q = 40°$
Draw a line AT
$\angle T = 80°$
In ΔABT,
$\angle A = 20°$
AB = AP = AT = TQ
In ΔATC
$\angle A = 20°$ and in ΔAQT
$\angle A = 40°$
Now In ΔPTQ
PT = TQ



$\angle Q = 70° - 40° = 30°$

74. (C) A.T.Q,



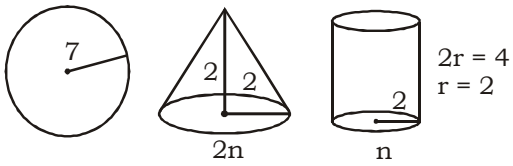
$$= \frac{\pi}{4}r^2 - \frac{\pi}{4}r^2 + \frac{4}{7}\times\frac{r^2}{4} = \frac{4}{7}\times\frac{r^2}{4}$$

Area of lif = $\frac{4}{7}\times \text{side}^2$

$$= \frac{4}{7}\times\frac{225}{4}\times 8$$

$$= \frac{8}{7}\times 225$$

75. (C) A.T.Q,



$$\frac{4}{3}\pi r^3 = \frac{1}{3}\pi r^2 h + \pi r^2 h$$

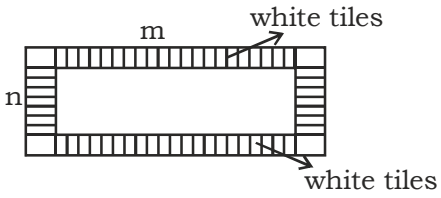
$$\frac{4}{3}\pi \times 343 = \frac{1}{3}\pi \times 2 \times 2 \times 2 \times 2n + \pi \times 2 \times 2 \times 4 \times n$$

$\Rightarrow 16n = 343$

$n = 21.43$

Hence maximum numbers of cones = 42

76. (B) A.T.Q,



$m + m + (n - 2) \times 2$

$= 2m + 2(n - 2)$

white tiles $= 2[m + n - 2]$

Total tiles $= m \times n$

Red tiles $= m \times n - 2[m + n - 2]$

$\Rightarrow 2(m + n - 2) = m \times n - 2[m + n - 2]$

$\Rightarrow 4(m + n - 2) = m \times n$

$\Rightarrow m \times n - 4m - 4n + 8 = 0$

$m(n - 4) - 4(n - 4) = 8$

$(n - 4)(m - 4) = 8$

Possible cases

$m > n$

4×2,	8×1
Case – I	Case–II
$m - 4 = 4$	$m - 4 = 8$
$m = 8$	$m = 12$

77. (B) A.T.Q,

Present year	Last year
x	y
x^2	y^2

$x^2 - y^2 = 131$

$(x + y)(x - y) = 131$

$x + y = 131$

$x - y = 1$

$x = 66$

Total Potatoes produce farmer this year = 4356

78. (A) A.T.Q,

Let CP of a cycles $= 100x$

MRP $= 120x$

Case – I

Cash value 1% ⟶ Discount

SP $= 108x$

Profit = 8%

Case – II

Credit sales,

5% ⟶ Discount

SP $= 144x$

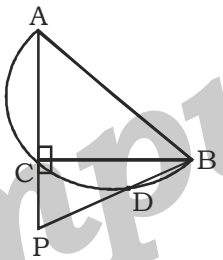
Profit = 14%

$$\frac{45 \times 100x \times 8}{100} + \frac{15 \times 100x \times 14}{100} = ₹\,11400$$

$\Rightarrow x = ₹\,20$

Hence, cost price of a cycles is ₹ 2000

79. (A) A.T.Q,



$AB^2 = AC^2 + BC^2$

$= AC \times AC + BP^2 - PC^2$

$= AC \times (AP - PC) + BP^2 - PC^2$

$= AC \times AP - AC \times PC + BP^2 - PC^2$

$= AC \times AP - PC(AC + PC) + BP^2$

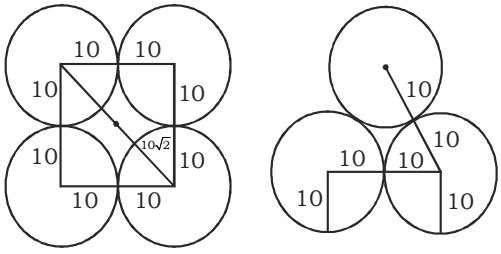
$= AC \times AP - PC \times AP + BP^2$

$= AC \times AP - PD \times PB + PB^2$ $(PC \times PA = PD \times PB)$

$= AC \times AP + PB(PB - PD)$

$= AC \times AP + PB \times BD$

80. (B) A.T.Q,

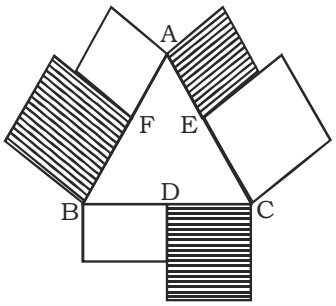


$= \sqrt{400 - 200} = \sqrt{200} = 10\sqrt{2}$

$\because$ Two sphere are already lies below

$= 10\sqrt{2} + 10$

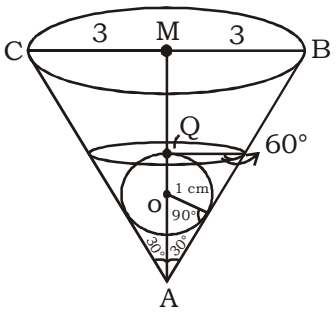
81. (D) A.T.Q,



$AF^2 + BD^2 + CE^2 = DF^2 + DC^2\ AE^2$

$DF^2 + DC^2 + AE^2 = 4 + 25 + 49 = 78\ cm^2$

82. (A) A.T.Q,



$\because BC = 6$ cm

AB = 6 cm

AC = 6 cm

So it is a an equilateral triangle,

Draw an altitude AM,

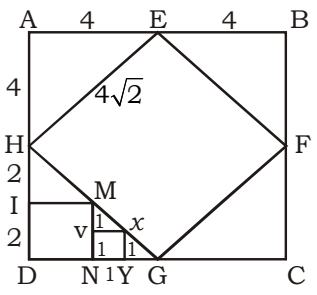
AO = 2cm, AQ = 3 cm

$= \frac{1}{3}\pi r^2 h - \frac{4}{3}\pi r^3$

$= \frac{1}{3} \times \pi \times 3 \times 3 - \frac{4}{3}\pi \times 1$

$= \frac{5\pi}{3} cm^3$

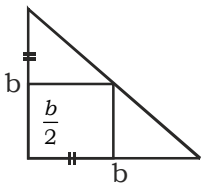
83. (A) A.T.Q,



ABCD : NMID

EFGH : VXYN

side = $\frac{b \times h}{b + h}$

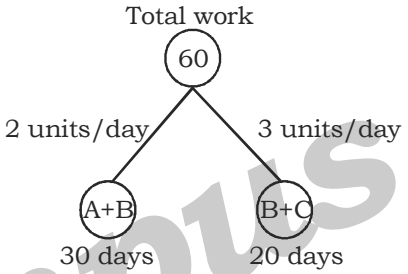


side = $\frac{b \times b}{2b} = \frac{b}{2}$

ABCD : NMID = 64 : 4 = 16 : 1

EFGH : VXYN = $\left(4\sqrt{2}\right)^2 : 1 = 32 : 1$

84. (D)



According to the question.

⇒ A + B ..... 30 days

⇒ B + C ..... 20 days

⇒ A 5

⇒ B ..... 5 + 10

⇒ C ..... 10 + 8 days

⇒ work done by (A + B) in 5 days = 2× 5 = 10 work

⇒ Work done by (B + C) in 5 days = 10 × 3 = 30 work

⇒ Total work ..... 40 work

⇒ Remaining work = 60 – 40 = 20 work

⇒ Here we find that C does remaining 20 work in 8 days

⇒ C's efficiency = $\frac{\text{work}}{\text{Day}}$

$= \frac{20 \text{ work}}{8 \text{ Day}} = \frac{5}{2}$

⇒ C's efficiency = $\frac{5}{2}$ work per day

⇒ Therefore time taken by C alone to complete the work = $\frac{60}{5} \times 2$ = 24 days

85. (D) $X^{2018}\ Y^{2017} = \frac{1}{2}$

$x^{2016}\ y^{2019} = 8$

$\frac{x^2}{y^2} = \frac{1}{16} \Rightarrow \frac{x}{y} = \frac{1}{4}$

$x = \frac{1}{2}$ and $y = 2$

$x^2 + y^3 = \left(\frac{1}{2}\right)^2 + 2^3 = \frac{33}{4}$

86. (A) A.T.Q,

Let total work is = 16 (R + G)

Total work done by Ramesh and Ganesh before sick = 7 (R + G)

After sick 30% efficiency fell by

$\Rightarrow$ 16 (R + G) = 7 (R + G) + 10 (7R + G)

$\Rightarrow$ R = 0.5 G ....(i)

Total amount of work left when Ramesh got, sick = 16 (R + G) – 7(R + G) = 9(R + G)

= 9 (0.5G + G) = 13.5 G

Time taken by Ganesh to finish the remaining work = $\frac{13.5G}{G}$ = 13.5 days

87. (A) A.T.Q,

Before Appeal

Amal = 11k

Bimal = 14 k

After appeal = 11k + x

= 14k + x

11k + x = 47 ....(i)

14k + x = 56 ....(ii)

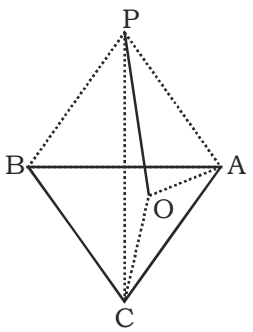
From equation (i) and (ii),

k = 3

x = 14

Bimal's ratio = $\frac{14 \times 3 + 14}{14 \times 3} = \frac{4}{3}$

88. (B) Let O be the centre of the equilateral ΔABC and OP the tower of height H. Then each of the ΔPAB, ΔPBC and ΔPCA equilateral. Thus PA = PB = PC = a. Therefore from right-angle triangle POA, we have,



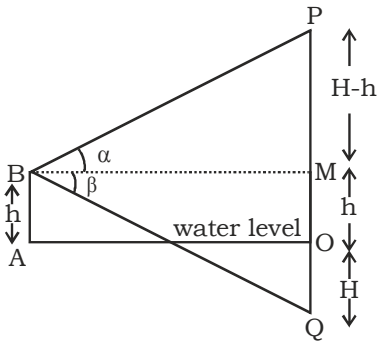
$PA^2 = PO^2 + OA^2$

$\Rightarrow a^2 = h^2 + \left(\frac{a}{2}\sec 30°\right)^2$

$= h^2 + \frac{a^2}{4}\frac{4}{3} = h^2 + \frac{a^2}{3}$

$\Rightarrow \frac{2}{3}a^2 = h^2 \Rightarrow 2a^2 = 3h^2$

89. (D) Let P be the cloud at height H above the level of the water. In the lake Q is its image.



$\therefore$ OQ = OP = H

B is a point at a height AB = h, above the water, Angle of elevation of P and depression of Q from B are α and β respectively

In ΔPBM,

$\tan\alpha = \frac{H - h}{BM}$

$\therefore$ MB = (H – h) cosα ....(i)

In ΔQMB,

$\tan\beta = \frac{QM}{BM}$

$\therefore$ BM = (H + h) cotb ....(ii)

From equation (i) and (ii),

(H – h) cotα = (H + h)cotβ

$\Rightarrow$ H(cotα – cotβ) = h(cotα + cotβ)

$\therefore$ $H = \frac{h(\cot\alpha + \cot\beta)}{\cot\alpha - \cot\beta}$

90. (B) A.T.Q,

Let Tea A $\longrightarrow$ a kg

Tea B $\longrightarrow$ b kg

Case – I

$\frac{3a + 2b}{5} = 40 \times \frac{10}{11}$

$3a + 2b = \frac{2000}{11}$ ....(i)

Case – II

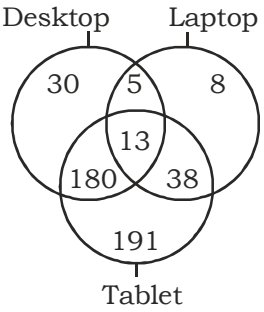
$\frac{2a + 2b}{5} = 40 \times \frac{20}{21}$

$2a + 2b = \frac{4000}{21}$ ....(ii)

$$b = \frac{3200}{77},\ a = \frac{7600}{77 \times 3}$$

$$\frac{a}{b} = \frac{7600}{3200 \times 3} = \frac{19}{24}$$

91. (D) Use figure from 91 to 95



92. (A)
93. (C)
94. (B)
95. (B)
96. (C) Average sales of grade

$$1 = \frac{(20+40+50+60)}{4} = 42.5 \text{ tonnes}$$

Average sales of grade

$$2 = \frac{(40+60+20+110)}{4} = 57.5 \text{ tonnes}$$

Difference = 57.5 – 42.5 = 15 tonnes

97. (A) Total income of companies
A = (75000 × 20) + (60000 × 40)
= ₹ 3900000
Total income of companies
C = (75000 × 50) + (60000 × 20)
= ₹ 4950000
Difference = ₹ 1050000 = ₹ 1.05 million.

98. (D) 3 companies = A, B and D. See the table below.

	Grade 1 company (tonnes)	Grade 2 (tonnes)
A	20	40
B	40	60
C	50	20
D	60	110

99. (D) Net time of company
A = (75000 × 20) + (40 × 6000)
= ₹ 3900000
Grade 1 constitutes 38.46%

$$\frac{150000}{3900000} \times 100 = 38.46\%$$

100. (D) Total production by company
D = 60 + 110 = 170 tonnes
Total production by company
B = 40 + 60 = 100 tonnes
Total production by company D is 170 % that of company.

SSC TIER II (MATHS) MOCK TEST - 51 (ANSWER KEY)

1. (D)	11. (C)	21. (C)	31. (C)	41. (A)	51. (D)	61. (C)	71. (B)	81. (D)	91. (D)
2. (C)	12. (B)	22. (D)	32. (A)	42. (C)	52. (C)	62. (A)	72. (A)	82. (A)	92. (A)
3. (A)	13. (B)	23. (C)	33. (D)	43. (A)	53. (B)	63. (D)	73. (C)	83. (A)	93. (C)
4. (A)	14. (C)	24. (A)	34. (A)	44. (D)	54. (D)	64. (B)	74. (C)	84. (D)	94. (B)
5. (D)	15. (B)	25. (B)	35. (C)	45. (C)	55. (A)	65. (D)	75. (B)	85. (D)	95. (B)
6. (A)	16. (A)	26. (D)	36. (B)	46. (B)	56. (A)	66. (C)	76. (B)	86. (A)	96. (C)
7. (C)	17. (D)	27. (C)	37. (C)	47. (A)	57. (A)	67. (B)	77. (B)	87. (A)	97. (A)
8. (A)	18. (A)	28. (A)	38. (A)	48. (B)	58. (B)	68. (A)	78. (A)	88. (B)	98. (D)
9. (A)	19. (A)	29. (D)	39. (D)	49. (C)	59. (B)	69. (A)	79. (A)	89. (D)	99. (D)
10. (A)	20. (C)	30. (D)	40. (A)	50. (A)	60 (B)	70. (B)	80. (B)	90. (B)	100.(D)

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock

Note:- If you face any problem regarding result or marks scored, please contact 9313111777