SSC TIER II (MATHS) MOCK TEST - 31 (SOLUTION)

1. (C) We know that
$x^3 + y^3 + z^3 - 3xyz$
$= (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$
$= (x + y + z)[(x + y + z)^2 - 3(xy + xy + zx)]$
A.T.Q,

$$\frac{a^3}{b^3} + \frac{b^3}{c^3} + \frac{c^3}{a^3} - 3$$

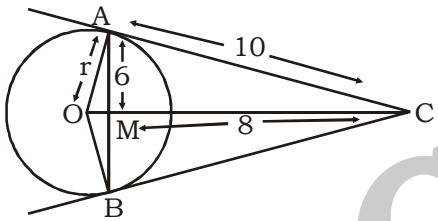
$$= \left(\frac{a}{b}+\frac{b}{c}+\frac{c}{a}\right)\left[\left(\frac{a}{b}+\frac{b}{c}+\frac{c}{a}\right)^2 - 3\left(\frac{b}{a}+\frac{c}{b}+\frac{a}{c}\right)\right]$$

On putting the values, we get

$$\frac{a^3}{b^3} + \frac{b^3}{c^3} + \frac{c^3}{a^3} - 3 = 9\,[9^2 - 3 \times 11]$$

$= 9(81 - 33) = 432$

2. (C)



Here, $\Delta OAC \sim \Delta AMC$

$$\Rightarrow \frac{OA}{AM} = \frac{AC}{MC}$$

$$\Rightarrow \frac{r}{6} = \frac{10}{8}$$

$$\Rightarrow r = \frac{15}{2}$$

Then,
Diameter = 2 × radius

$$= 2 \times \frac{15}{2} = 15\text{cm}$$

3. (D) Let the distance of the circular track be 180 m (LCM of 36 and 20)
Then,

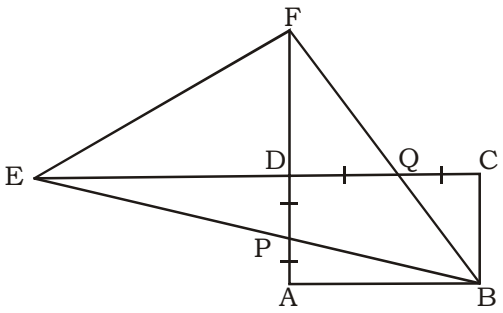
$$\text{Velocity of Vipul} = \frac{180}{36} = 5 \text{ m/s}$$

and, relative velocity of Vipul and Sumit

$$= \frac{180}{20} = 9 \text{ m/s}$$

Now, Velocity of Sumit = 9 – 5 = 4 m/s
Then, Time taken by Sumit to complete one round $= \frac{180}{4} = 45$ sec.

4. (C)



In figure,
$\Delta FDQ \cong \Delta BCQ$
and, $\Delta EDP \cong \Delta BAP$
Then, FD = BC
and, DE = AB
Now, Area of the ΔBEF
= ar(ABCD) + ar(DEF)

$$= 80 + \frac{1}{2} \times DE \times FD$$

$$= 80 + \frac{1}{2} \times AB \times AC$$

$$= 80 + \frac{1}{2} \times 80 = 120 \text{ cm}^2$$

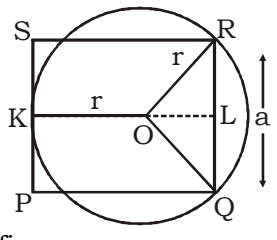
5. (A) A.T.Q,
Train takes (24 – 8) = 16 seconds to travel a distance of 90 m (length of platform)

$$\text{So, speed of train} = \frac{90}{16} = \frac{45}{8} \text{ m/s}$$

As train takes 8 sec. to cross the men

$$\text{So, length of the train} = \frac{45}{8} \times 8 = 45 \text{ m}$$

6. (D)



In the figure,
O is the centre of circle.

$$\text{and, RL} = \frac{a}{2}$$

Using pythagoras, we get

$$OL = \sqrt{r^2 - \frac{a^2}{4}}$$

We know that KL is equal to the side of square.

So, KO + OL = KL

$\Rightarrow r + \sqrt{r^2 - \frac{a^2}{4}} = a$

$\Rightarrow \sqrt{r^2 - \frac{a^2}{4}} = a - r$

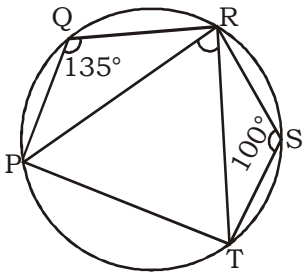
Squaring both sides, we get

$r^2 - \frac{a^2}{4} = a^2 + r^2 - 2ar$

$\Rightarrow \frac{5a^2}{4} = 2ar \Rightarrow r = \frac{5a}{8}$

$\therefore$ Radius of the circle = $\frac{5a}{8}$ units

7. (C)



Taking points P, Q, R and T concyclic, we get

$\angle RTP = 180° - 135° = 45°$

Now, taking points P, T, S and R concylic, we get

$\angle RPT = 180° - 100° = 80°$

Then,

In ΔPRT,

$\angle PRT = 180° - (\angle RTP + \angle RPT)$

$= 180° - (45° + 80°) = 55°$

8. (D) Let the length of each candle = 3 × 4 = 12 units

Rate of burning of first candle = $\frac{12}{4} = 3$ units/hour

Rate of burning of second candle = $\frac{12}{3}$ = 4 units/hour

Now, let the required time take = t hours

According to the question,

$\frac{12 - 3t}{12 - 4t} = \frac{2}{1}$

$\Rightarrow 12 - 3t = 24 - 8t$

$\Rightarrow 5t = 12$

$\Rightarrow t = \frac{12}{5}$ = 2 hours 24 minute

9. (C) We know that,

interior angle + exterior angle = 180°

A.T.Q,

9 × exterior angle = 180°

$\Rightarrow$ exterior angle = 20°

Then,

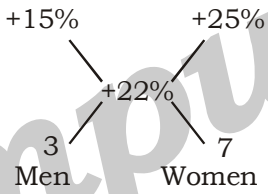
$n = \frac{360°}{\text{exterior angle}} = \frac{360°}{20°} = 18$

$\therefore$ Number of sides of polygon = 18

10. (D) The percentage increase in the number of members of the club

$= \frac{183 - 150}{150} \times 100 = 22\%$

Using alligation Method,



(3 + 7) units =10 units = 150

$\Rightarrow$ 1 unit = 15

Then, difference = 7 – 3 = 4 units

= 4 × 15 = 60

11. (A)

	A	B	C
Income	5	7	12
Expenditure	6	8	15

Now,

A saves $\frac{1}{3}$ of his income

i.e. expenditure = $5 \times \frac{2}{3} = \frac{10}{3}$

$\Rightarrow 6$ units = $\frac{10}{3}$

$\Rightarrow 1$ units = $\frac{5}{9}$

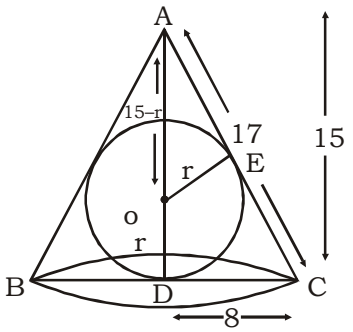
Then,

On multiplying expenditure by 5 and income by 9, the new ratio becomes

	A	B	C
Income	45	63	108
Expenditure	30	40	75
Saving	15	23	33

$\therefore$ The required ratio = 15 : 23 : 33

12. (B)



Here, O is the centre of the sphere with radius r

Using pythagoras, we get

$AC = \sqrt{15^2 + 8^2} = 17$ cm

Now, $\Delta AEO \sim \Delta ADC$

$$\frac{AO}{AC} = \frac{EO}{DC}$$

$$\Rightarrow \frac{15 - r}{17} = \frac{r}{8}$$

$\Rightarrow 17r = 120 - 8r$

$\Rightarrow 25r = 120$

$$\Rightarrow r = \frac{120}{25} = 4.8 \text{ cm}$$

$\therefore$ Radius of sphere = 4.8 cm

13. (D) For area to be maximum

PS = SR = RQ

and, $\angle POS = \angle SOR = \angle QOR$

As we know that total angle at the centre = 360°

$\Rightarrow 3\angle POS + 135° = 360°$

$\Rightarrow \angle POS = 75°$

Now,

$$\cos 135° = \frac{OP^2 + OQ^2 - PQ^2}{2OP.OQ}$$

$$\Rightarrow \frac{-1}{\sqrt{2}} = \frac{r^2 + r^2 - \left(2 + \sqrt{2}\right)}{2r^2}$$

$$\Rightarrow \frac{-2r^2}{\sqrt{2}} = 2r^2 - \left(2 + \sqrt{2}\right)$$

$$\Rightarrow r^2\left(2 + \sqrt{2}\right) = \left(2 + \sqrt{2}\right)$$

$\Rightarrow r = 1$

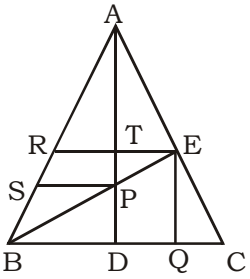
Now, area of quadrilateral

$$= \frac{1}{2} r^2 \sin 135° + \frac{3}{2} r^2 \sin 75°$$

$$= \frac{1}{2} \times \frac{1}{\sqrt{2}} + \frac{3}{2} \times \frac{\sqrt{3}+1}{2\sqrt{2}} = \frac{3\sqrt{3}+5}{4\sqrt{2}}$$

14. (c) $x = -\frac{1}{2}, y = -\frac{1}{2}$

15. (B)



Draw EQ‖AD, PS‖BC and RE‖BC

Now, in ΔADC,

EQ‖AD and E is the mid point of AC

So, by m.p.t. Q will be the mid point of DC.

Since D divides line BC in the ratio 1 : 2.

$\therefore$ BD = DQ

Similarly, by m.p.t in ΔBEQ, we get BP = PE

Now, Again in ΔADC, TE‖DC and E is the mid point of AC.

So, by m.p.t AT = TD

Now, in ΔBRE, SP‖RE, is the mid point of BE.

So, BS = SR

Similarly in ΔABD, TP = PD

Here, we get, AT = TD

and TP = PD

We know that,

AD = AT + TD = 2TD = 4PD

$$\frac{AD}{PD} = \frac{4}{1}$$

Subtract 1 from both sides,

$$\frac{AD}{PD} - 1 = \frac{4}{1} - 1$$

$$\frac{AD - PD}{PD} = \frac{3}{1} \Rightarrow \frac{AD}{PD} = 3 : 1$$

16. (C) Given,

$x\sqrt{x} + y\sqrt{y} = 152$ ..... (i)

and,

$x\sqrt{y} + y\sqrt{x} = 120$

$\Rightarrow \sqrt{xy}\left(\sqrt{x} + \sqrt{y}\right) = 120$ ..... (ii)

Now,

$\left(\sqrt{x} + \sqrt{y}\right)^3 = x\sqrt{x} + y\sqrt{y} + 3\sqrt{x}\,y\left(\sqrt{x} + \sqrt{y}\right)$

On putting the values, we get

$\left(\sqrt{x}+\sqrt{y}\right)^3 = 152 + 3 \times 120 = 512$

$\Rightarrow \sqrt{x}+\sqrt{y} = 8$ ..... (iii)

On putting the value of equation (iii) in (ii), we get

$\sqrt{xy} = \frac{120}{8} = 15$

Squaring equation (iii), we get

$x + y + 2\sqrt{xy} = 64$

$\Rightarrow x + y + 2 \times 15 = 64$

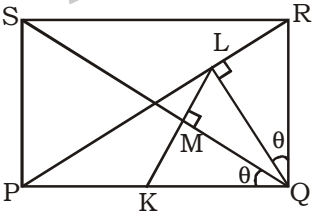
$\Rightarrow x + y = 64 - 30 = 34$

17. (D) $\begin{matrix} S \rightarrow 20 \\ J \rightarrow 36 \end{matrix} \Big\rangle 180 \Big\langle \begin{matrix} 9 \\ 5 \end{matrix}$

Work done by Satyapreet in 10 days
$= 9 \times 10 = 90$ units
Then, Remaining work $= 180 - 90$
$= 90$ units
Now, time taken by Jaspreet to complete the work $= \frac{90}{5} = 18$ days
$\therefore$ Required time $= 18 - 4 = 14$ days

18. (B) Let the number of boys in the class be $5x$ and $3x$ respectively.
Then, A.T.Q,
$(5x - 5) = (3x - 13)^2$
$\Rightarrow 5x - 5 = 9x^2 + 169 - 78x$
$\Rightarrow 9x^2 - 83x + 174 = 0$
On solving, we get $x = 6$
$\therefore$ Total number of students
$= 5x + 3x = 8 \times 6 = 48$

19. (C)



Let $\angle LQR = \theta$
Then, By symmetry
We find $\angle PQS = \theta$
and, $\angle KLQ = 2\theta$
Now,

$KQ = \frac{QM}{\cos\theta}$ ..... (i)

$MQ = LQ \sin 2\theta$ ..... (ii)

and, $LQ = 6\sqrt{3}\cos\theta$ ..... (iii)

From equation (i), (ii) and (iii), we get

$KQ = \frac{6\sqrt{3}\cos\theta\sin 2\theta}{\cos\theta} = 6\sqrt{3}\sin 2\theta$

$\Rightarrow KQ = 6\sqrt{3} \times \frac{2\tan\theta}{1+\tan^2\theta}$

let PQ = a

Then, $KQ = \frac{a}{2}$

On putting the values, we get

$\frac{a}{2} = \frac{6\sqrt{3} \times 2 \times \frac{PS}{PQ}}{1+\left(\frac{PS}{PQ}\right)^2}$

$\Rightarrow \frac{a}{2} = \frac{12\sqrt{3} \times 6\sqrt{3}}{a\left[1+\left(\frac{6\sqrt{3}}{a}\right)^2\right]}$

$\Rightarrow \frac{a}{2} = \frac{216}{a} \times \frac{a^2}{(a^2+108)}$

$\Rightarrow a^2 + 108 = 432$
$\Rightarrow a^2 = 324$
$\Rightarrow a = 18$
$\therefore$ PQ $= 18$ units

20. (D) We know that
Product of sides and altitudes remains equal as area of the triangle remains constant.
Let a, b, c be the sides of the triangle
Then,
$24 \times a = 8.4 \times b = 11.2 \times c$
On simplificiation,we get
$60a = 21b = 28c$
Now, LCM of (60, 21, 28) = 420
Then,

$\frac{60a}{420} = \frac{21a}{420} = \frac{28a}{420}$

$\Rightarrow \frac{a}{7} : \frac{b}{20} : \frac{c}{15}$

$\Rightarrow a : b : c = 7 : 20 : 15$

21. (D) $f(x) = x^3 - 3x^2 + x + 1$ ..... (i)

As, α, β and γ are the roots of the equation
Then,

$f(x) = (x-\alpha)(x-\beta)(x-\alpha)$

Now, put $x = -1$

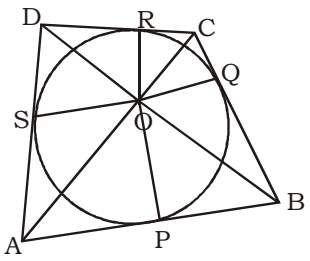
$f(-1) = (-1-\alpha)(-1-\beta)(-1-\gamma)$

And, put $x = -1$ in equation (i), we get
$f(-1) = -1^3 - 3(-1)^2 - 1 + 1 = -4$

$\Rightarrow (-1-\alpha)(-1-\beta)(-1-\gamma) = -4$

$\Rightarrow (1+\alpha)(1+\beta)(1+\gamma) = 4$

22. (C)



A circle can be inscribed in a quadrilateral only if

$$\frac{1}{OP}+\frac{1}{OR}=\frac{1}{OQ}+\frac{1}{OS}$$

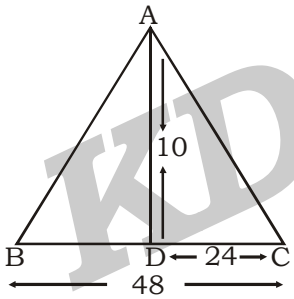
$$\Rightarrow \frac{1}{OS}=\frac{1}{OP}+\frac{1}{OR}-\frac{1}{OQ}$$

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

$$\Rightarrow \frac{1}{OS}=\frac{1}{12}$$

$\Rightarrow$ OS = 12 cm

23. (D)



Given,
Base of triangle = 48 cm
Then, DC = 24 cm
and, AD = 10 cm
Using pythagoras, we get

AC = $\sqrt{24^2+10^2}$ =26cm

$\therefore$ Perimeter = AC + AB + BC
= 26 + 26 + 48 = 100cm

24. (B) As we know that

$$\sin 2\theta=\frac{2\tan\theta}{1+\tan^2\theta}$$

and given that, $\sin 2\theta=\frac{2a}{1+a^2}$

On comparing ,we get

$\tan\theta = a$

25. (C) To change radian into degree, we multiply by $\frac{180^\circ}{\pi}$

$$\therefore 1^c=\left(\frac{180}{\pi}\right)^\circ=\left(\frac{180}{22}\times 7\right)^\circ$$

$$=\left(\frac{630}{11}\right)^\circ = 57^\circ\ 16'$$

26. (A) Let the angles of the triangle be (60° – d), 60° and (60 + d)°

least angle in degree = (60 – d)°

greatest angle in radian = $(60+d)\times\frac{\pi}{180^\circ}$

Then, A.T.Q,

$$\frac{(60-d)}{(60+d)}\times\frac{180^\circ}{\pi}=\frac{90}{\pi}$$

$$\Rightarrow \frac{60-d}{60+d}=\frac{1}{2}$$

$\Rightarrow$ 120 – 2d = 60 + d
$\Rightarrow$ 3d = 60°
$\Rightarrow$ d = 20°
$\therefore$ Greatest angle = 60° + 20° = 80°

27. (B) (cosecA – sinA)(secA – cosA) (tanA + cot A)

$$=\left(\frac{1}{\sin A}-\sin A\right)\left(\frac{1}{\cos A}-\cos A\right)\left(\frac{\sin A}{\cos A}+\frac{\cos A}{\sin A}\right)$$

$$=\frac{1-\sin^2 A}{\sin A}\times\frac{1-\cos^2 A}{\cos A}\times\frac{\sin^2 A+\cos^2 A}{\cos A\,.\sin A}$$

$$=\frac{\cos^2 A\times\sin^2 A}{\sin A\,.\cos A}\times\frac{1}{\sin A.\cos A}=1$$

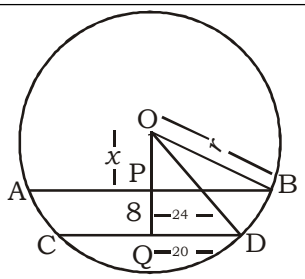
28. (D) $(\cos^4 A-\sin^4 A+1)\sec^2 A$
$=[(\cos^2 A-\sin^2 A)(\cos^2 A+\sin^2 A)+1].\sec^2 A$
$=[\cos^2 A-\sin^2 A+1].\sec^2 A$
$=[\cos^2 A+\cos^2 A].\sec^2 A$
$=2\cos^2 A.\ \sec^2 A = 2$

29. (D) Given,
$\tan^4 A+\tan^2 A = 2$
This equation is satified at A = 45°
Then, $\sec^4 A-\sec^2 A$
$=\sec^4 45^\circ-\sec^2 45^\circ$

$$=\left(\sqrt{2}\right)^4-\left(\sqrt{2}\right)^2=2$$

II method:-
$\sec^4 A-\sec^2 A=\sec^2 A(\sec^2 A-1)$
$=(1+\tan^2 A)(\tan^2 A)$
$=\tan^2 A+\tan^4 A = 2$

30. (C)



Here, OB is the radius of the circle
Let OP be x

Now , PB = $\frac{48}{2}$ = 24 cm

and, QD= $\frac{40}{2}$ =20 cm

Using pythagoras, we get
$x^2 + 24^2 = r^2$ ..... (i)
and, $(x + 8)^2 + 20^2 = r^2$ ..... (ii)
Subtract equation (i) from equation (ii), we get,
$(x + 8)^2 + 20^2 - x^2 - 24^2 = 0$
$\Rightarrow 16x = 112$
$\Rightarrow x = 7$
On putting the value of x in equation (i) we get
$7^2 + 24^2 = r^2$
$\Rightarrow 625 = r^2$
$\Rightarrow r = 25$ cm
$\therefore$ Diameter of the circle = 25 × 2 = 50 cm

31. (B) We know that,
$\tan\theta \cdot \tan(60^\circ - \theta) \cdot \tan(60^\circ + \theta) = \tan 3\theta$
$\Rightarrow \tan 6^\circ \cdot \tan(60^\circ - 6^\circ) \cdot \tan(60^\circ + 6^\circ)$
$= \tan(3 \times 6^\circ)$
$\Rightarrow \tan 6^\circ \cdot \tan 54^\circ \cdot \tan 66^\circ = \tan 18^\circ$

$\Rightarrow \tan 6^\circ \cdot \tan 66^\circ = \frac{\tan 18^\circ}{\tan 54^\circ}$ ..... (i)

Now,
$\tan 18^\circ \cdot \tan(60^\circ - 18^\circ) \cdot \tan(60^\circ + 18^\circ)$
$= \tan(3 \times 18^\circ)$
$\Rightarrow \tan 18^\circ \cdot \tan 42^\circ \cdot \tan 78^\circ = \tan 54^\circ$

$\Rightarrow \tan 42^\circ \cdot \tan 78^\circ = \frac{\tan 54^\circ}{\tan 18^\circ}$ ..... (ii)

Multiply equation (i) and (ii), we get
$\tan 6^\circ \cdot \tan 42^\circ \cdot \tan 66^\circ \cdot \tan 78^\circ = 1$

32. (A) Consider $(24^3 + 25^3 + 26^3 + 27^3)$
$= (24^3 + 27^3) + (25^3 + 26^3)$
$x^n + y^n$ is always divided by (x + y) if n is an odd number.
So, whole fraction is divided by 51.
That's why, it will be divisible by 17.
$\therefore$ Remainder = 0

33. (B) Discount $\rightarrow 10\% \rightarrow \frac{1}{10}$

Profit $\rightarrow 18\frac{3}{4}\% \rightarrow \frac{3}{16}$

CP	MP	SP	
	10	9	×19
16		19	×9

We get MP = 190 and CP = 144
A.T.Q,
CP = 144 units = ₹1800
Now, MP = 190 units

$= \frac{1800}{144} \times 190$ = ₹2375

$\therefore$ List price of the cycle = ₹2375

34. (C) Make the group of the number as
(0, 99) (1, 98) (2, 97) .....
There will be a total of 50 pairs
and, One pair gives sum 9 + 9 = 18
$\therefore$ Sum of 50 pairs = 18 × 50 = 900
Here, we missed the number 100
So, total sum = 900 + 1 = 901

35. (D) Reduction in the price of tea = 30%

$= \frac{3}{10}$

Then, Increased Quantity = $\frac{3}{10-3} = \frac{3}{7}$

$\left[\frac{\text{Num.}}{\text{Den} - \text{Num}}\right]$

A.T.Q,

$\left(\frac{3}{7}\right)$units = 21 kg

$\Rightarrow$ 1 unit = 49 kg (original tea)
Now, after increased quantity, quantity of tea = 49 + 21 = 70 kg

Then, reduced price = $\frac{2450}{70}$ = ₹35 per kg

36. (B) Use the formula

$x + y + \frac{xy}{100}$

Then,

Change in area = $10 - 15 + \frac{10 \times (-15)}{100}$

$= -5 - 1.5 = -6.5$
$\therefore$ Decrease in area = 6.5%

37. (C) We know that,
Diagonal of a cube = $a\sqrt{3}$
A.T.Q,
$a\sqrt{3}$ = 9 cm
$\Rightarrow a = \frac{9}{\sqrt{3}} = 3\sqrt{3}$ cm
Then, volume of cube = $a^3 = \left(3\sqrt{3}\right)^3$
$= 81\sqrt{3}$ cm^3

38. (A) Difference between compound interest and simple interest for 2 years
$= p\left[\frac{r}{100}\right]^2 = 6000\left[\frac{20}{300}\right]^2$
$= 6000 \times \frac{1}{15} \times \frac{1}{15} =$ ₹26.66

39. (C) Area of the field that can be grazed
$= \pi r^2 \frac{\theta}{360}$
[sum of the angle of a triangle = 180°]
$= \frac{22}{7} \times 7 \times 7 \times \frac{180}{360} = 77 m^2$

40. (C)

	Efficiency	time taken		
A	5	7	$\xrightarrow{\times 3}$	2 1
B	7	5	$\xrightarrow{\times 3}$	15

∴ B will take 15 days to finish the work.

41. (B) Consider $x^2 + y^2 - 6x + 10y - 34 = 0$
$\Rightarrow (x-3)^2 + (y+5)^2 = 0$
$\Rightarrow x - 3 = 0$ and $y + 5 = 0$
$\Rightarrow x = 3$ and $y = -5$
Then, $x - y = 3 - (-5) = 8$

42. (C) A.T.Q,
A → 36
B → 60
A+B+C → 45
180 : 5 : 3 : 4
Now, efficiency of C = 4 – (5 + 3) = – 4
Then,
Pipe C can empty the tank in
$\frac{180}{4}$ = 45 minutes
∴ Capacity of tank = 45 × 20 = 900 gallon

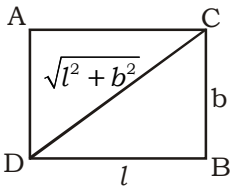
43. (C) Let average score of 15 innings be x.
Then, A.T.Q,
$15x + 95 = 16(x + 3)$
$\Rightarrow 15x + 95 = 16x + 48$
$\Rightarrow x = 47$
∴ Average after 16th inning = 47 + 3 = 50
Alternative Method:
Average after 16th inning = 95 – 3 × 15
= 95 – 45 = 50

44. (B) Let $\sqrt{5\sqrt{5\sqrt{5}}}$ ..... = y
On squaring both sides, we get
$5\sqrt{5\sqrt{5\sqrt{5}}}$ ..... = y^2
$\Rightarrow 5y = y^2 \Rightarrow y = 5$
A.T.Q,
$5 = (5^3)^{x-1}$
$\Rightarrow 3x - 3 = 1 \Rightarrow x = \frac{4}{3}$

45. (C) Let the number of the coins be x.
Then, volume of n coins must be equal to the volume of right circular cylinder.
i.e., $n \times \pi r^2 h = \pi r^2 h$
$\Rightarrow n \times 0.8 \times 0.8 \times 0.2 = 4 \times 4 \times 12$
$\Rightarrow n = \frac{4 \times 4 \times 12}{0.8 \times 0.8 \times 0.2} = 1500$

46. (B) Let the radius of the sphere be r cm.
Then, A.T.Q,
$4\pi[(r+3)^2 - r^2] = 5016$
$\Rightarrow 4\pi[(r + 3 - r)(r + 3 + r)] = 5016$
$\Rightarrow 4 \times \frac{22}{7} \times 3(2r + 3) = 5016$
$\Rightarrow 2r + 3 = 133$
$\Rightarrow r = 65$
∴ Radius of the original sphere = 65 cm

47. (D)



A.T.Q,
l b = 420 ..... (i)
and, $\sqrt{l^2 + b^2}$ = 37
$\Rightarrow l^2 + b^2 = 1369$..... (ii)
Using equation (i) and (ii), we get
$l + b = \sqrt{1369 + 2 \times 420} = \sqrt{2209} = 47$ .... (iii)
and, $l - b = \sqrt{1369 - 2 \times 420}$
$= \sqrt{529} = 23$ ..... (iv)
Now, using equation (iii) and (iv), we get
$l = \frac{47 + 23}{2} = 35$ cm

48. (C) Interest on ₹2646 for one year
= 2778.3 – 2646 = ₹132.3

Rate of interest = $\frac{132.3}{2646} \times 100 = 5\%$

Now,

$P\left[1+\frac{r}{100}\right]^2 = 2646$

$P\left[\frac{21}{20} \times \frac{21}{20}\right] = 2646$

$P = \frac{2646 \times 20 \times 20}{21 \times 21} = ₹2400$

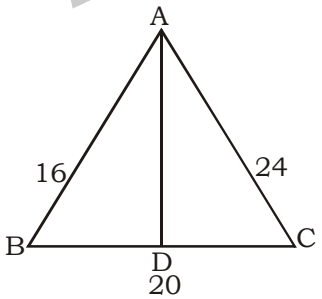
49. (D) A.T.Q,

A+B → 24
B+C → 40
120 : 5 : 3

Now, efficiency of A = 3 × efficiency of C
Then, on comparing, we get
Efficiency of A = 3
B = 2
C = 1
Then, time taken by B to complete the work = $\frac{120}{2}$ = 60 days

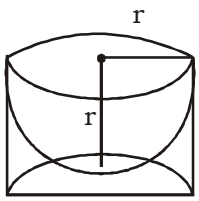
50. (A) If the difference is same then number with smaller digits will be the greatest.
Here, $\sqrt{5} - \sqrt{3}$ is the largest number.

51. (C)



Using Appollonius theorem,
$AB^2 + AC^2 = 2(AD^2 + BD^2)$
On putting the values, we get
$16^2 + 24^2 = 2(AD^2 + 10^2)$
$\Rightarrow 256 + 576 = 2(100 + AD^2)$
$\Rightarrow AD^2 = 316$
$\Rightarrow AD = 2\sqrt{79}$
∴ Length of median AD = $2\sqrt{79}$ cm

52. (B)



Here,
Radius of cylinder = Height of cylinder = r
Then, ratio of their volumes
= $\frac{\text{volume of cylinder}}{\text{volume of hemisphere}}$
= $\frac{\pi r^2 \times r}{\frac{2}{3}\pi r^3} = 3 : 2$

53. (A)

A	B
5×12	8 ×8
	+4×4
⇓	⇓
60	80
3	: 4

A.T.Q,
3 units = ₹4500
⇒ 1 unit = ₹1500
Then, profit of B = 4 × 1500 = ₹6000

54. (D) Let the two numbers be x and y.
Then, $xy = 1440$ ..... (i)

and, $\frac{x}{y} = \frac{8}{5}$

Put $x = 8a$ and $y = 5a$ in equation (i)
$8a \times 5a = 1440$
$\Rightarrow 40a^2 = 1440$
$\Rightarrow a^2 = 36$
$\Rightarrow a = 6$
Then,
$x = 8 \times 6 = 48$ and $y = 5 \times 6 = 30$
∴ Sum of the numbers = 48 + 30 = 78

55. (C) $4017 \times 4018 = 4017(4017 + 1)$
$= 4017^2 + 4017$
To make the number a perfect square 4017 has to be subtracted.

56. (A)

A → 4
B → 6
C → –2
12 : 3 : 2 : 6

Now,
Work done by A in 2 hours = 3 × 2 = 6 units and, Work done by B in 1 hour = 2 units
Now, water in cistern = 6 + 2 = 8 units
At 7 pm. effective efficiency = 3 + 2 – 6 = 1 i.e.,
cistern will be emptied in $\frac{8}{1}$ = 8 hours
∴ Required time = 7pm + 8 hours = 3 a.m.

57. (D) Let S.P. of one apple be ₹1
Then, S.P. of 60 apple = ₹60
Now, Profit = S.P of 20 apple = ₹20
Then, C.P. = S.P. – profit = 60 – 20 = ₹40
Then, profit percentage

$= \frac{\text{profit}}{\text{CP}} \times 100\% = 50\%$

58. (B) Consider the equations
$a_1 x + b_1 y + c_1 = 0$
$a_2 x + b_2 y + c_2 = 0$
For lines to be parallel

$\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

A.T.Q,

$\frac{k+1}{3+k} = \frac{-3}{1}$

$\Rightarrow k + 1 = -9 - 3k$

$\Rightarrow 4k = -10$

$\Rightarrow k = -\frac{5}{2}$

59. (C) Consider $x = 7 + 4\sqrt{3}$

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

$\Rightarrow \sqrt{x} = 2 + \sqrt{3}$ ..... (i)

and, $\frac{1}{\sqrt{x}} = \frac{1}{2+\sqrt{3}} = 2 - \sqrt{3}$ .... (ii)

Now, Adding equation (i) and (ii), we get

$\sqrt{x} + \frac{1}{\sqrt{x}} = 2 + \sqrt{3} + 2 - \sqrt{3} = 4$

Then, square root of $\left(\sqrt{x} + \frac{1}{\sqrt{x}}\right) = \sqrt{4} = 2$

60. (B) Let the speed of the boat be x km/h and the speed of the stream be y km/h
A.T.Q,

$\frac{30}{x-y} + \frac{36}{x+y} = 8$ ..... (i)

and, $\frac{40}{x-y} + \frac{20}{x+y} = \frac{25}{3}$ ..... (ii)

On solving the equations, we get
$x + y = 12$
and, $x - y = 6$

Then, speed of the boat = $\frac{12+6}{2} = 9$ km/h

61. (A) A.T.Q,

$2x - \frac{9}{x} = 3$

$\Rightarrow 2x^2 - 3x - 9 = 0$

$\Rightarrow 2x^2 - 6x + 3x - 9 = 0$

$\Rightarrow 2x(x-3) + 3(x-3) = 0$

$\Rightarrow x = \frac{-3}{2}$ and $x = 3$

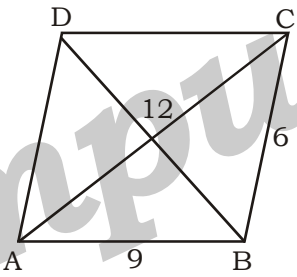
Then, $x^2 + \frac{1}{x^2} = \left(-\frac{3}{2}\right)^2 + \left(-\frac{2}{3}\right)^2$

$= \frac{9}{4} + \frac{4}{9} = \frac{97}{36}$

Now, Put $x = 3$

Then, $x^2 + \frac{1}{x^2} = 3^2 + \frac{1}{3^2} = 9 + \frac{1}{9} = \frac{82}{9}$

62. (C)



In a parallelogram,
$AC^2 + BD^2 = 2[AB^2 + BC^2]$
$\Rightarrow 12^2 + BD^2 = 2[6^2 + 9^2]$
$\Rightarrow 144 + BD^2 = 2[36 + 81]$
$\Rightarrow BD^2 = 234 - 144$
$\Rightarrow BD = \sqrt{90} = 3\sqrt{10}$ cm

63. (B) MP of the article = ₹5400

First discount = $5400 \times \frac{10}{100}$ = ₹540
Now, Price = 5400 – 540 = ₹4860
Then,

$x\% = \frac{4860 - 4131}{4860} \times 100$

$= \frac{729}{4860} \times 100$

$\Rightarrow x = 15$

64. (A) Required ratio $\Rightarrow \frac{P\left[\frac{r}{100}\right]^2\left[3 + \frac{r}{100}\right]}{P\left[\frac{r}{100}\right]^2} = \frac{19}{6}$

$\Rightarrow 3 + \frac{r}{100} = \frac{19}{6}$

$\Rightarrow \frac{r}{100} = \frac{19}{6} - 3$

$\Rightarrow r = \frac{100}{6}$

$\Rightarrow r = 16\frac{2}{3}\%$

$\therefore$ Rate of interest $= 16\frac{2}{3}\%$

65. (D) $\sec 2A - \tan 2A = \frac{1}{\cos 2A} - \frac{\sin 2A}{\cos 2A}$

$= \frac{1-\sin 2A}{\cos 2A} = \frac{(\cos A - \sin A)^2}{\cos^2 A - \sin^2 A}$

$= \frac{(\cos A - \sin A)^2}{(\cos A - \sin A)(\cos A + \sin A)}$

$= \frac{\cos A - \sin A}{\cos A + \sin A}$

Divide numerator and Denominator by cos A

$\sec 2A - \tan 2A = \frac{1-\tan A}{1+\tan A}$

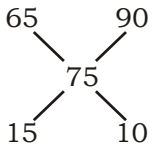
$= \frac{\tan\frac{\pi}{4} - \tan A}{1 + \tan\frac{\pi}{4}.\tan A} = \tan\left[\frac{\pi}{4} - A\right]$

$= \tan[45° - A]$

66. (B) $6\frac{2}{3}\%$ profit $\rightarrow \frac{1}{15}$

CP	SP
↓	↓
15	16
×5 ↓	×5 ↓
75	80

Using alligation method



$\therefore$ Required ratio = 15 : 10 = 3 : 2

67. (A) Let $x + 6 = a$

Then, $x = a - 6$

A.T.Q,

$x + \frac{1}{x+6} = 0$

$\Rightarrow a - 6 + \frac{1}{a} = 0$

$\Rightarrow a + \frac{1}{a} = 6$

We know that

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

$\Rightarrow 6^2 - \left(a - \frac{1}{a}\right)^2 = 4$

$\Rightarrow \left(a - \frac{1}{a}\right)^2 = 32$

$\Rightarrow \left(a - \frac{1}{a}\right) = 4\sqrt{2}$

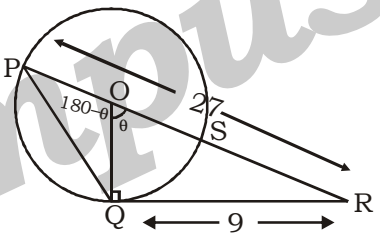
Now, Subtract 6 from both sides

$a - 6 - \frac{1}{a} = 4\sqrt{2} - 6$

Put $a - 6 = x$

Then, $x - \frac{1}{x+6} = 4\sqrt{2} - 6 = 2[2\sqrt{2} - 3]$

68. (B)



Using the property

$PR \times SR = QR^2$

$\Rightarrow 27 \times SR = 9^2$

$\Rightarrow SR = 3$ cm

Then, PS = 27 – 3 = 24 cm

Now,

Radius of the circle (OQ) $= \frac{24}{2} = 12$cm

Then, area of ΔPQR = area of ΔOQR + area of ΔOPQ

$= \frac{1}{2} \times 12 \times 9 + \frac{1}{2} \times 12 \times 12\sin(180° - \theta)$

$= 54 + 72\sin\theta$

[OR = (OS + SR) = 12 + 3 =15]

$= 54 + 72 \times \frac{9}{12+3} = 97.2$ cm^2

$\therefore$ Area of $\Delta PQR = 97.2$ cm^2

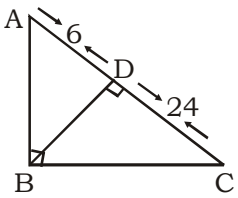
69. (C) Surface area of sphere $= 4\pi r^2$

Now, Surface area of two hemispheres $= 2 \times 3\pi r^2 = 6\pi r^2$

Then, increased surface area $= 6\pi r^2 - 4\pi r^2 = 2\pi r^2$

$= 2 \times \frac{22}{7} \times 7 \times 7 = 308$ cm^2

70. (B)



Using the property
$AB^2 = AD \times AC$
$= 6 \times (6 + 24)$
$= 6 \times 30 = 180$
$AB = \sqrt{180} = 6\sqrt{5}$ cm

71. (D) Weight of teacher = 41 kg + 45 × 600 gm
= 41 kg + 27 kg = 68 kg

72. (B) A.T.Q,
Fare of 25 km = 1235 – 360 = 875

Then, fare of 1 km = $\frac{875}{25}$ = ₹35

Given, charge of 10 km = ₹360
Now, 4 km (fixed) + 6 km (additional) = ₹360
Then, 4 km (fixed) + 6 × 35 = ₹360
∴ fixed charge = 360 – 210 = ₹150

73. (C) Diagonals of a rhombus bisect each other of 90°. So, O is the mid point of AC and slope of line BD × slope of line AC = – 1
Now,

Coordinates of O = $\left[\frac{2-4}{2}, \frac{5+7}{2}\right]$ = (–1, 6)

and, slope of line AC = $\frac{7-5}{-4-2} = \frac{2}{-6} = \frac{-1}{3}$

Then, Slope of line BD = 3

Now, equation of line BD $\Rightarrow \frac{y-y_1}{x-x_1} = m$

$\Rightarrow \frac{y-6}{x+1} = 3$
$\Rightarrow y - 6 = 3x + 3$
$\Rightarrow 3x - y + 9 = 0$

74. (C) Let the speed of Rajdhani train be x km/hr. and, that of express train be y km/hr.
A.T.Q,

$\frac{784}{y} - \frac{784}{x} = 8$ ..... (i)

and, $\frac{784}{x} - \frac{784}{2y} = 4$ ..... (ii)

On solving the equation, we get x = 49 km/h
∴ Speed of Rajdhani train = 49 km/h

75. (B) A.T.Q,

$\frac{P \times r \times 8}{100} = 2500$

$\Rightarrow \frac{Pr}{100} = \frac{2500}{8}$ .... (i)

Now,

we have to find $\frac{P \times r \times 4}{100} + \frac{4P \times r \times 4}{100}$

$= \frac{4Pr}{100}[1 + 4] = \frac{20Pr}{100}$

$= 20 \times \frac{2500}{8} = 6250$

∴ Total interest obtained after years = ₹6250

76. (D)

A → 16
B → 24 > 240 < 15
C → 20 < 10
12

Now, time taken by A and B to do this work = $\frac{150}{15+10}$ = 6 days
and, remaining work = 240 – 150 = 90
Now, time taken by C to do this work
= $\frac{90}{12}$ = 7.5 days
∴ Total time taken = 6 + 7.5 = 13.5 days

77. (B) Rate of Interest = $\frac{106}{1550} \times 100 = \frac{212}{31}\%$

Using alligation
8×31 6×31

$\frac{212}{31} \times 31$

⇓

248 186
212
26 : 36

(13 + 18) units ⇒ 31 units = 1550
⇒ 1 unit = 50
Then, 13 units = 50 × 13 = ₹ 650
and, 18 units = 50 × 18 = ₹ 900

78. (B) A.T.Q.

6% = $\frac{6}{100} = \frac{3}{50}$

	Initial	Now
Price	50	47
Quantity	47	50

∴ Required quantity = $\frac{47 \times 50}{47}$ = 50 kg

79. (C) A.T.Q

1 man → 2
1 woman → 5
1 child → 10
10 < 5, 2, 1

Work done by Man and Woman in one day = 5 + 2 = 7
Then, remaining work = 10 – 7 = 3

$\therefore$ Required number of boys = $\frac{3}{1}$ = 3

80. (B) Consider $2^x = 4^y = 8^z$
$\Rightarrow 2^x = 2^{2y} = 2^{3z}$
On comparing, we get
$x = 2y = 3z$
$\Rightarrow x : y : z = 6 : 3 : 2$
let $x = 6a$, $y = 3a$ and $z = 2a$
A.T.Q,

$$\frac{1}{3x} + \frac{1}{2y} + \frac{1}{z} = \frac{26}{27}$$

$$\Rightarrow \frac{1}{18a} + \frac{1}{6a} + \frac{1}{2a} = \frac{26}{27}$$

$$\Rightarrow \frac{13}{18a} = \frac{26}{27}$$

$$\Rightarrow a = \frac{13 \times 27}{26 \times 18} = \frac{3}{4}$$

Then, value of $z = 2a = 2 \times \frac{3}{4} = \frac{3}{2}$

81. (B)

Time 4 3
Speed 3 4
1

[1/4 less means 4 is changed into 3]
[time and speed remains in reverse ratio]
Then,

Then, increased speed = $\frac{1}{3} \times 100 = 33\frac{1}{3}\%$

82. (A) $12\frac{1}{2}\% \Rightarrow \frac{1}{8}$

Now, interest on ₹1600 till July

$= 1600 \times \frac{1}{8} =$ ₹ 200

and, net amount of 1 July
= 1600 + 200 + 1600 = ₹ 3400
Then, interest at the end of year

$= 3400 \times \frac{1}{8} =$ ₹ 425

$\therefore$ Total interest = 200 + 425 = ₹ 625

83. (D) Time after which they will meet again = LCM of (150, 250, 350)
= 5250 sec. = 87.5 min

84. (C) Let the price of 1 orange, 1 apple and 1 banana be x, y and z respectively.
Then,
A.T.Q,
$2x + 3y + z = 26$ ..... (i)
$3x + 2y + 2z = 35$ ..... (ii)
Now, Multiply equation (i) by 3 and equation (ii) by 2 and on solving, we get
$z = 5y - 8$
Now, multiply equation (i) by 2 and on solving, we get x
$= 17 - 4y$
Then, the price of 12 orange, 13 apple and 7 bananas = $12x + 13y + 7z$
$= 12(17 - 4y) + 13y + 7(5y - 8)$
$= 204 - 48y + 13y + 35y - 56 =$ ₹ 148

85. (B) A.T.Q,
Speed of motor bike for Ist km = 20 km/hr
Speed of motor bike for IInd km = 30 km/hr
and,
Speed of motor bike for next half km = 40 km/hr

Then, average speed = $\frac{\text{Total Distance}}{\text{Total time}}$

$= \frac{2.5}{\frac{1}{20} + \frac{1}{30} + \frac{0.5}{40}} = 26.08$ km/h

86. (B) We know that,

Distance = $\frac{\text{Product of speeds}}{\text{Difference of speeds}} \times$ time

$\Rightarrow D = \frac{15 \times 20}{20 - 15} \times \frac{42}{60} \Rightarrow D = 42$ km

$\therefore$ Distance between his house and office = 42 km

87. (B)

A : B
3 : 2 | 5 ×2
3 : 7 | 10

[Make the quantity equal in both the cases.]
New ratio:

A : B
3 (6 : 4
3 : 7

liquid taken out = $\frac{3}{6} = \frac{1}{2}$

Then, total quantity $\Rightarrow 1 \Rightarrow 15 \times 2 = 30$ litre
6 + 4 = 30
$\Rightarrow$ 10 units = 30
$\Rightarrow$ 1 units = 3
Then,
Next time quantity of liquid A = 6 units
= 6 × 3 = 18 litre

88. (A) Consider the equation

$mx^2 + nx + x = 0$

Now, sum of the roots $(\alpha + \beta) = \frac{-n}{m}$

and, product of the roots $(\alpha\beta) = \frac{n}{m}$

Given, $\frac{\alpha}{\beta} = \frac{p}{q}$

Then, $\sqrt{\frac{p}{q}} + \sqrt{\frac{q}{p}} + \sqrt{\frac{n}{m}}$

$= \sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}} + \sqrt{\alpha\beta}$

$= \frac{\alpha + \beta + \alpha\beta}{\sqrt{\alpha\beta}} = \frac{\frac{-n}{m} + \frac{n}{m}}{\alpha\beta} = 0$

89. (C)

CP → SP

100 $\xrightarrow{+40\%}$ 140

+120% ↓ ↓ +17%

120 163.8

Then, profit percentage

$= \frac{163.8 - 120}{120} \times 100 = 36.5\%$

90. (D) A.T.Q,

$\left[\frac{3\times5}{100}+1\right] = B\left[\frac{4\times5}{100}+1\right] = C\left[\frac{5\times5}{100}+1\right]$

$\Rightarrow A \times 115 = B \times 120 = C \times 125$

$\Rightarrow A \times 23 = B \times 24 = C \times 25$

$\Rightarrow A : B : C = 24 \times 25 : 23 \times 25 : 23 : 24$

$= 600 : 575 : 552$

Now, (600 + 575 + 552) units = ₹ 8635

$\Rightarrow$ 1727 = 8635

$\Rightarrow$ 1 = 5

Loan recieved by B = 5 × 575 = ₹ 2875

91. (B) Total number of students of school C who scored between 80 and 90 percent

$= 12000 \times \frac{18}{100} = 2160$

And, ratio of girls to boys in school C who scored between 80 and 90 percent = 7 : 5

Then, number of girls

$= 2160 \times \frac{7}{12} = 1260$

Now, total number of students of school of F who scored more than 90 percent

$= 8000 \times \frac{15}{100} = 1200$

and, ratio of girls to boys = 5 : 7

Then, number of girls = $\frac{1200}{12} \times 5 = 500$

$\therefore$ required percentage = $\frac{1260}{500} \times 100 = 252\%$

92. (C) Number of boys of different school who scored 90 percent are above are-

A $\rightarrow 8000 \times \frac{10}{100} \times \frac{7}{16} = 350$

B $\rightarrow 8000 \times \frac{24}{100} \times \frac{5}{8} = 1200$

C $\rightarrow 8000 \times \frac{8}{100} \times \frac{7}{16} = 280$

D $\rightarrow 8000 \times \frac{23}{100} \times \frac{13}{23} = 1040$

E $\rightarrow 8000 \times \frac{20}{100} \times \frac{2}{5} = 640$

F $\rightarrow 8000 \times \frac{15}{100} \times \frac{7}{12} = 700$

Total students = 350 + 1200 + 280 + 1040 + 640 + 700 = 4210

$\therefore$ Average number of students

$= \frac{4210}{6} = 701.6$

93. (B) Number of girls of school E who scored 90% and above = $8000 \times \frac{20}{100} \times \frac{3}{5} = 960$

and, number of boys who scored between 80 – 90% from school B

$= 12000 \times \frac{5}{100} \times \frac{2}{5} = 240$

Then, required difference = 960 – 240 = 720

94. (D) Number of boys of school D who scored who scored 90% and above = 1040

and, number of boys of school D who scored between 80 – 90%

$= 12000 \times \frac{12}{100} \times \frac{3}{5} = 864$

Required ratio = 1040 : 864 = 65 : 54

95. (B) Number of boys of school D and F who scored 90% and above = 1040 + 700 = 1740

and, number of girls of school B and E who scored 80 – 90%

$= 12000 \times \frac{5}{100} \times \frac{3}{5} + 12000 \times \frac{22}{100} \times \frac{6}{11}$

$= \frac{12000}{100}\left[3 + 22 \times \frac{6}{11}\right]$

$= 120[3 + 12] = 1800$

Required percentage $= \frac{1800 - 1740}{1800} \times 100$

$= \frac{60}{18} = \frac{10}{3}\%$

96. (A) LCM of the expressions

$= (x^2 + 7x + 12)(x - 1)$

$= (x + 3)(x + 4)(x - 1)$,

HCF of the expressions = $x - 1$,

and, One expression = $x^2 + 3x - 4$

$= (x - 1)(x + 4)$

We know that,

Ist number × 2nd number = LCM × HCF

$\Rightarrow (x - 1)(x + 4) \times$ 2nd expression

$= (x + 3)(x + 4)(x - 1)(x - 1)$

2nd expression $= (x + 3)(x - 1)$

$= x^2 + 2x - 3$

97. (C) A.T.Q,

$P\left[1 + \frac{r}{100}\right]^3 = 3 \times \left[P \times \frac{r}{100} + P\right]$

$\Rightarrow P\left[1 + \frac{r}{100}\right]^3 = 3P\left[1 + \frac{r}{100}\right]$

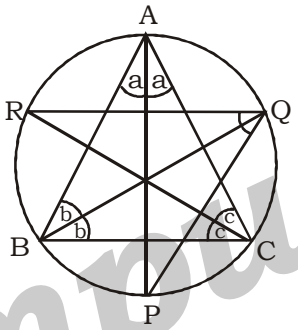
$\Rightarrow \left[1 + \frac{r}{100}\right]^2 = 3$

$\Rightarrow 1 + \frac{r}{100} = \sqrt{3}$

$\Rightarrow \frac{r}{100} = \sqrt{3} - 1$

$\Rightarrow$ r =100 × 0.732 = 73.2%

98. (B)



Here, 2c + 2b + 2c = 180°

a + b + c = 90° ..... (i)

Now, $\angle RCB = \angle RQB = C$

and, $\angle BAP = BQP = a$

Then $\angle RQP = a + c$

using equation (i) we get

a + b = 90 – b

$\Rightarrow \angle RQP = 90 - \frac{B}{2}$

99. (B)

$\underbrace{\sqrt{10} \quad \sqrt{4}}_{6}, \underbrace{\sqrt{11} \quad \sqrt{3}}_{8}, \underbrace{\sqrt{7} \quad \sqrt{7}}_{0}$

Difference

$\Rightarrow$ When difference becomes maximum

we get the least number.

So, $\left(\sqrt{11} + \sqrt{3}\right)$ is the smallest number.

100. (C) Consider

$2^2 + 6^2 + 10^2 + 14^2 - 1^2 - 5^2 - 9^2 - 13^2$

$= (2^2 - 1^2) + (6^2 - 5^2) + (10^2 - 9^2) + (14^2 - 13^2)$

$= (2 - 1)(2 + 1) + (6 - 5)(6 + 5) + (10 - 9)$

$(10 + 9) + (14 - 13)(14 + 13)$

$= 3 + 11 + 19 + 27 = 60$

SSC TIER II (MATHS) MOCK TEST - 31 (ANSWER KEY)

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

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