Caselet DI Questions for SBI PO Exam

Directions (1-4): Read the information carefully and answer the following questions.
In a school student like three types of sports (A, B and C). Number of students who like only sport B is 40% of the students like only sport A which is equal to 50. Number of students like all types of sports is 10% of the students like only A. Number of students like only B is equal to the number of students like only C which is double of the students like both A and C but not B. Number of students who like both A and B but not C is half of the students who like both B and C but not A which is equal to 60.

Q1. Find the number of people like at most two types of sports is what percentage (approx.) of the total number of students in the school.
(a) 87%
(b) 84%
(c) 95%
(d) 90%
(e) 97%

Q2. Find the ratio of students who like only A and only C sports together to the number of students who like both B and C but not A.
(a) 7: 6
(b) 5: 3
(c) 9: 11
(d) 8: 13
(e) 9: 13

Q3. Find the average of number of students like only one type of the sport.
(a) 20
(b) 40
(c) 30
(d) 25
(e) 15

Q4. If 10% and 20% of students who play only sport A and only B respectively are qualified for the international school tournament, then find the what percentage (approx.) of students from the school get qualified for the international school tournament.
(a) 25%
(b) 20%
(c) 15%
(d) 10%
(e) 5%

Directions (5-7): Read the following information carefully and answer the questions.
Ratio of the total number of laptops to mobiles sold in January is 2:1. Out of the total number of items sold in March, 37.5% are laptops. Total number of items sold in January is 50% more than that of March. Total number of laptops and mobiles sold in February is 210 and 90 less than that of January. Ratio of the total number of laptop and mobiles sold in April is 5:9 respectively. Total number of mobiles sold in April is 10% less than that of March. Difference between the total number of laptops sold in January and March is 200.
Note: Total number of items sold=Total number of laptops sold +Total number of mobiles sold.

Q5. Find the difference between the total number of laptops sold in January and April together and total number of mobiles sold in March?
(a) 220
(b) 240
(c) 180
(d) 160
(e) 200

Q6. If the total number of laptops sold in May is 50% more than that of March, which is 60% out of total number of items sold in May, then find total number of items sold in May?
(a) 450
(b) 400
(c) 200
(d) 350
(e) 300

Q7. Total number of mobiles sold in January is what percentage less than the total number of items sold in March?
(a) 40%
(b) 45%
(c) 50%
(d) 35%
(e) 30%

Directions (8-12): Read the following information carefully and answer the questions given below.
Total students (boys and girls) in three (X, Y & Z) different schools. The ratio of total students in X to girls in school X is 5:3 and girls in school Y are 20 less than the boys in school X. The ratio of boys to girls in school Y is 8:3 and the total students in school Z is 140 more than that in school Y. Girls and boys in school Z are equal, and boys in school Z are 100 more than in school X.

Q8. Find the total boys in all three schools.

(a) 250

(b) 420

(c) 350

(d) 500

(e) 600

Q9. Find the girls in schools X & Y together is what percentage of total students in school Z.

(a) 75%

(b) 25%

(c) 50%

(d) 120%

(e) 60%

Q10. If total students in school P are 55% more than that in school X and boys in school P is half of the girls in school Z, then find the girls in school P is how much more or less than the boys in school Y.

(a) 40

(b) 60

(c) 80

(d) 100

(e) 20

Q11. The average age of total students in school Z is 15 years, and the average age of boys in the school is 20 years. Then find the average age of girls in the school.

(a) 6 years

(b) 4.5 years

(c) 12 years

(d) 7.5 years

(e) 10 years

Q12. Total girls in all the school together are how much percentage more or less than the total students in school Y?

(a) 66.66%

(b) 63.63%

(c) 33.33%

(d) 83.33%

(e) 14.28%

Directions (13-17): Study the given data carefully and answer the following questions.

In a library there are two type of people, one who reads English newspaper and another who reads Hindi newspaper. Total 40 people (male + female) read both newspapers (English + Hindi) together, which is half of males who read only English newspaper. 30 females read both (English and Hindi) together newspaper, which is 25% of females who read only English newspaper. The ratio of males to females who read only Hindi newspaper is 7:9.

Total number of females who read only Hindi and only English newspaper together are 40% more than total males who read only Hindi and only English Newspaper together.

Q13. How many people (male + female) read only Hindi newspaper?

(a) 128
(b) 192
(c) 160
(d) 80
(e) 64

Q14. Number of males who read only English newspaper are what percent of females who read Hindi newspaper?

(a) 70%
(b) 88.89%
(c) 66.67%
(d) 80%
(e) None of these.

Q15. What is the difference between total no. of males and females?

(a) 40
(b) 60
(c) 50
(d) 80
(e) 30

Q16. What is the ratio of number of people (male+ female) who read both newspapers together to no. of females who read only Hindi?

(a) 4:9
(b) 2:5
(c) 5:7
(d) 3:7
(e) 4:7

Q17. Number of females who read English newspaper are what percent of total number of people (male + female)?
(a) 65.5%
(b) 30%
(c) 33.33%
(d) 37.5%
(e) None of these.

Directions (18-20): Read the following information carefully and answer the questions.
The total number of employees in three different offices (A, B and C) is 1110 in April. 40% of employees in office B are females and the ratio of the number of female employees in offices B to that of C is 8:9. The number of male employees in all the three offices is 250 more than the number of female employees in all the three offices and the number of female employees in office A is 50% less than the number of female employees in office C. The average number of male employees in offices A and B is the same as the number of female employees in office C.

Q18. If the number of male employees in offices C and D is 530 and the ratio of the number of male and female employees in office D is 7:5, then find the number of employees in office D?
(a) 240
(b) 360
(c) 480
(d) 120
(e) 600

Q19. The number of male employees in offices A and B is how much more/less than the number of female employees in office B?
(a) 80 more
(b) 20 less
(c) 80 less
(d) 240 more
(e) 200 more

Q20. The number of female employees in office A is what percentage of the number of male employees in office B?
(a) 37.5%
(b) 25%
(c) 12.5%
(d) 20%
(e) 35%

Directions (21-24): Read the following information carefully and answer the questions given below. The data given below shows the number of students in four schools A, B, C and D.

Total number of boys and girls in all the four school is 800 and 650 respectively. Total number of boys in school B is 40 more, 80 more and 120 more than that of in school A, C and D respectively. The ratio of number of boys to girls in school C is 9:5 respectively. Total number of girls in school A is 20% less than total number of boys in same school and average number of boys and girls in school D is 167.

Q21. Total number of girls in school B is how much percent more or less than total number of boys in school C?

(a) 5%
(b) 0%
(c) 2%
(d) 4%
(e) 6%

Q22. Find the difference between total number of girls in school D and total number of boys in school B?

(a) 66
(b) 76
(c) 56
(d) 68
(e) 46

Q23. Total number of girls in school E is 25% more than that of in school C. If the ratio of boys to girls in school E is 8: 5 respectively, then find the ratio of total number of students in school E to that of in school C?

(a) 65 : 59
(b) 61 : 56
(c) 69 : 56
(d) 65 : 56
(e) 62 : 59

Q24. If 40% of total boys and 20% of total girls from school C migrate to school D, then find the difference between number of boys and girls in school D after migration?

(a) 8
(b) 6
(c) 4
(d) 5
(e) 2

Directions (25-28): Read the following information carefully and answer the questions given below. The information shows certain number of students who likes three different types of mock test i.e. A, B & C.

Students likes only mock test A is 75% more than that of only C and ratio of students likes only mock test A to mock test B & C together but not A is 7:2 respectively. Students likes all three mock test is 50 and students likes only mock test B is 25% more than that of only C. Students likes mock test A & B together is 110 and students likes mock test A & C together but not B to the students likes mock test A & B together but not C is 3:2 respectively. 140 students don't like any mock test which is 20% of the total students.

Q25. The students like mock test B & C together but not A is how much more/less than students like only A?

(a) 70
(b) 80
(c) 50
(d) 90
(e) 100

Q26. Find the total number of students who like only B mock test.

(a) 70
(b) 100
(c) 50
(d) 90
(e) 120

Q27. Find the ratio between students likes all three mock tests to students likes only mock test C.

(a) 5:8
(b) 4:7
(c) 3:5
(d) 2: 5
(e) 6: 7

Q28. Find the students likes at least two mocks test.

(a) 265
(b) 280
(c) 240
(d) 170
(e) 200

Directions (29-31): Read and understand the information carefully and answer the following questions.

There are two societies A and B, who planned to go on a trip via three different modes of transportation. The number of people travelling from Bus from A are 50% of people travelling from Train from B. The total number of people travelling from A are 400. The number of people travelling in Bus from B are 50% more than that from Car. The total number of people travelling from both societies are 1000 and the ratio of number of people travelling in train from B to Car from A is 4:1. The number of people travelling in bus from A are 100.

Q29. Find the number of people travelling in train from B are what percent more or less than the number of people travelling in car from A.

(a)300%
(b)200%
(c)250%
(d)350%
(e)None of these.

Q30. Find the total number of people travelling in car from both the societies together.

(a)120
(b)150
(c)240
(d)180
(e)210

Q31. Find the respective ratio of number of people travelling in bus from B to number of people travelling in train from A.

(a)12: 13
(b)15: 14
(c)24: 35
(d)25: 26
(e)24: 25

Directions (32-36): Read the following information carefully and answer the questions given below.

In a society, people use three different flowers rose, lily and jasmine for decoration of durga puja. People who use only rose and only lily are in the ratio of 4:3 respectively and people who use all the three types of flowers together is 15.

People who use only jasmine is the average number of people who uses only two flowers together and total people who use roses and lily is 230.

People who use only rose & jasmine together is ¼th of the people who uses only rose and 30 people use only lily and jasmine together.

People who use only rose & lily together is average of people who use only rose & jasmine together and use only lily & jasmine together.

Q32. People uses roses is what percentage more than people uses jasmine.
(a) 55.55%
(b) 66.66%
(c) 11.11%
(d) 28%
(e) 15%

Q33. Find the average of total number of people who use at most one type of flower.
(a) 90
(b) 75
(c) 100
(d) 25
(e) 55

Q34. Find the total number of people who use only lily flower is how much more/less than the total number of people who use at least two types of flowers.
(a) 20
(b) 18
(c) 12
(d) 30
(e) 15

Q35. Find the respective ratio of total number of people who use only rose & jasmine flower together to that of only lily & rose flower together.
(a) 4:7
(b) 4:5
(c) 7:5
(d) 6:5
(e) None of these

Q36. Find the difference between total people who uses only one flower and people uses only two flowers together.
(a) 90
(b) 75
(c) 100
(d) 25
(e) 55

Directions (37-40): Read the information given carefully and answer the questions.
In an office, employees use one or more modes (Shuttle, Metro, Car) to commute daily. The ratio of employees using only metro to only metro and car both to only car is 15 : 4 : 5. 52% employees use Shuttle. Sum of employees using all three modes together and any modes other than Shuttle are 260.

Q37. If employees using all three modes are half of employees using only metro & car both, then how many employees use Shuttle?
(a) 208
(b) 260
(c) 312
(d) 286
(e) 234

Q38. If there are 400 employees in total, how many employees use all three modes?
(a) 52
(b) None of these
(c) 82
(d) 68
(e) 62

Q39. If ratio of employees using only Shuttle to only metro is 2 : 3 and total employees using only Shuttle & metro both and only Shuttle & car both are 180, then what is difference between employees using only metro and those using only car?
(a) 115
(b) 110
(c) 108
(d) 112
(e) 114

Q40. Employees using only metro are what percent more/less than employees using only car?
(a) 200%
(b) 300%
(c) 66.67%
(d) 100%
(e) 150%

Directions (41-43): Study the given passage carefully and answer the questions.
Chiku can complete a work in X days while Mahi takes 'X+5' days to complete same work. If Chiku & Gabbar work together, they take 7.5 days to complete the work. If all three work together they take '$\frac{X}{2}$' days to finish the work.

Q41. In how many days Gabbar alone can complete the work?
(a) 35
(b) 30
(c) 20
(d) 25
(e) 15

Q42. If $Y = X^3 - 10X^2 + 12X - 12$, *then* find is value of Y?
(a) 2108
(b) 1032
(c) 1008
(d) 132
(e) 108

Q43. What is ratio of time taken by Chiku & Mahi togther to complete the work to time taken by Gabbar to complete the work with double of his efficiency?
(a) 1 : 5
(b) 5 : 2
(c) 2 : 5
(d) 5 : 1
(e) 5 : 3

Directions (44-48): Read the following information carefully and answer the questions given below. The information shows student likes three types (P, Q and R) pens in a school.
The average number of students who like only two pens is 23. Students who like only pen P are 20 more than that of only R and students who like only pen Q are 40% less than that of only P. Students who like all three pens together are 12 and sum of students who like pen only P & Q together and all the three pens together are half of the students who like only pen R. The ratio of students who like only pen P to who like only pen Q and R together is 8:3 and the students who like pen Q is 108.

Q44. Find the students who like at least two pens.
(a) 81
(b) 64
(c) 9^2
(d) Both (a) & (c)
(e) 36

Q45. Find the ratio of students who like pens only P and Q together students who likes only pen R.
(a) 1:2
(b) 3:10
(c) 4:5
(d) 7:2
(e) 2:1

Q46. Students who like at most one pen is how much more or less than the students like only pen Q and R together.
(a) 151
(b) 145
(c) 144
(d) 154
(e) 158

Q47. If total students in the school are 329, then find the students who do not like any pen.
(a) 50
(b) 45
(c) 60
(d) 70
(e) 30

Q48. Students who like only pen P is how much percentage more or less than the students like only pen Q and R together.
(a) 66.67%
(b) 125%
(c) 166.67%
(d) 133.33%
(e) 180%

Directions (49-53): Read the information carefully and answer the following questions.
There are five (A, B, C, D and E) friends and their speeds are equal. The distance travelled by A is 100 km less than that of B and the distance travelled by D is twice of the distance travelled by C who travel 100 km more than that of E in 4 hours. The ratio of distance travel by C to that of A is 4:1. Total time taken by all five to cover total distance is 18 hours and average speed of all is 50 km/hr.

Q49. Find the total distance travelled by all five (in km).
(a) 900
(b) 600
(c) 540
(d) 660
(e) 500

Q50. Find the ratio of distance travelled by B and A together to the distance travelled by D and C together.
(a) 1:2
(b) 1:3
(c) 5:4
(d) 1:5
(e) 11:12

Q51. Find the distance travelled by D and E together is what percentage more /less than that of B?
(a) $170\frac{1}{3}\%$
(b) $280\frac{1}{3}\%$
(c) $233\frac{1}{3}\%$
(d) $133\frac{1}{3}\%$
(e) $210\frac{1}{3}\%$

Q52. The distance travelled by B is increased by 20% and C by 25%. If the speed remains same, then find the time taken by B and C to cover the distance (in hours).

(a) 8.1
(b) 7.1
(c) 3.3
(d) 8.6
(e) 9.3

Q53. Find the time taken by D and A to travel the respective distance is how much more/less than that of C and E (in hours).

(a) 3
(b) 7
(c) 4
(d) 8
(e) 9

Solutions

Solutions (1-4):

Number of students like only sport A = 50

Number of students like only B = $\frac{40}{100} \times 50 = 20$

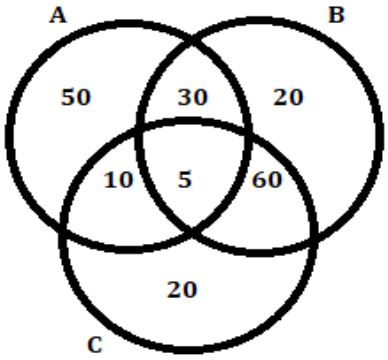
Number of students like only C = 20

Number of students like both A and C but not B = $\frac{20}{2} = 10$

Number of students like all the three types of sports = $\frac{10}{100} \times 50 = 5$

Number of students like both B and C but not A = 60

Number of students like both A and B but not C = $\frac{60}{2} = 30$



S1. Ans.(e)

Sol. Total number of students = 50 + 30 + 20 + 10 + 5+ 60 + 20 = 195

Number of students like at most two types of sports = 195- 5= 190

Required percentage = $\frac{190}{195} \times 100 = 97.43 \approx 97\%$

S2. Ans.(a)

Sol. Required ratio = $\frac{70}{60} = 7:6$

S3. Ans.(c)

Sol. Required average = $\frac{50+20+20}{3} = \frac{90}{3} = 30$

S4. Ans.(e)

Sol. Number of students qualified for the international school tournament

$= \frac{10}{100} \times 50 + \frac{20}{100} \times 20 = 5 + 4 = 9$

Total number of students = 50 + 30 + 20 + 10 + 5+ 60 + 20 = 195

Required percentage = $\frac{9}{195} \times 100 = 4.61 \approx 5\%$

Solutions (5-7):

Let the total number of items sold in March=2x

Total number of items sold in January = $2x \times \frac{150}{100} = 3x$

Total number of laptops sold in January =$3x \times \frac{2}{3} = 2x$

Total number of mobiles sold in January = 3x - 2x = x

Total number of laptops sold in March=$2x \times \frac{3}{8} = \frac{3x}{4}$

Total number of mobiles sold in March=$2x - \frac{3x}{4} = \frac{5x}{4}$

$2x - \frac{3x}{4} = 200$

5x=800

x=160

Total number of laptops sold in February =$2 \times 160 - 210 = 110$

Total number of mobiles sold in February = $1 \times 160 - 90 = 70$

Total number of mobiles sold in April = $5 \times \frac{160}{4} \times \frac{90}{100} = 180$

Total number of laptops sold in April=$180 \times \frac{5}{9}$ =100

Month	Items sold	Laptops sold	Mobiles sold
January	480	320	160
February	180	110	70
March	320	120	200
April	280	100	180

S5. Ans.(a)

Sol. Required difference = (320+100)-200 = 220

S6. Ans.(e)

Sol. Laptops sold in may = $\frac{150}{100} \times 120 = 180$

Total items sold in may = $\frac{100}{60} \times 180 = 300$

S7. Ans.(c)

Sol. Required percentage = $\frac{320-160}{320} \times 100 = 50\%$

Solutions (8-12):

Let total students & girls in school X be 5x & 3x respectively

Boys in school X = 5x - 3x = 2x

Girls in school Y = $2x - 20$

Boys in school Y = $(2x - 20) \times \frac{8}{3}$

Total students in school Y = $(2x - 20) \times \frac{8}{3} + (2x - 20)$

Total students in school Z = $\left((2x - 20) \times \frac{8}{3} + (2x - 20)\right) + 140$

Boys in school Z = $\frac{1}{2}\left(\left((2x - 20) \times \frac{8}{3} + (2x - 20)\right) + 140\right)$

Given,

$\frac{1}{2}\left(\left((2x - 20) \times \frac{8}{3} + (2x - 20)\right) + 140\right) - 2x = 100$

$\frac{1}{2} \times \left((2x - 20)\left(\frac{8}{3} + 1\right) + 140\right) - 2x = 100$

$\frac{1}{2} \times \left(\left((2x - 20) \times \frac{11}{3}\right) + 140\right) - 2x = 100$

$\frac{1}{2} \times \left(\left(\frac{22x}{3} - \frac{220}{3}\right) + 140\right) - 2x = 100$

$\frac{1}{2} \times \frac{22x - 220 + 420}{3} - 2x = 100$

$\frac{22x + 200}{6} - 2x = 100$

$22x + 200 - 12x = 600$

$10x = 400$

$x = 40$

Schools	Total students	Boys	Girls
X	200	80	120
Y	220	160	60
Z	360	180	180

S8. Ans.(b)

Sol. Required sum = 80 + 160 + 180 = 420

S9. Ans.(c)

Sol. Required percentage = $\frac{120+60}{360} \times 100 = 50\%$

S10. Ans.(b)

Sol. Total students in school P = $\frac{155}{100} \times 200 = 310$

Boys in school P = $\frac{1}{2} \times 180 = 90$

Girls in school P = $310 - 90 = 220$

Required difference = $220 - 160 = 60$

S11. Ans.(e)

Sol. Total age of total students in school Z = $360 \times 15 = 5400$ years

Total age of boys in school Z = $180 \times 20 = 3600$

Average age of girls in school Z = $\frac{5400-3600}{180} = 10$ years

S12. Ans.(b)

Sol. Total girls in all the school together = $120 + 60 + 180 = 360$

Required percentage = $\frac{360-220}{220} \times 100 = 63.63\%$

Solutions (13-17):

Number of males who read only English newspaper = $40 \times 2 = 80$

Number of females who read only English newspaper = $\frac{30}{25} \times 100 = 120$

Let males and females who read only Hindi newspaper be 7x and 9x respectively

So, $(120 + 9x) = \frac{140}{100}(80 + 7x)$

$600 + 45x = 560 + 49x$

$x = 10$

Number of males who read only Hindi newspaper = $7x = 70$

Number of females who read only Hindi newspaper = $9x = 90$

Number of males who reads both (Hindi + English) together newspaper = $40 - 30 = 10$

S13. Ans.(c)

Sol. Required number of people = 160

S14. Ans.(c)

Sol. Number of females who read Hindi newspaper = $90 + 30 = 120$

Required percentage = $\frac{80}{120} \times 100 = 66.67\%$

S15. Ans.(d)

Sol. Required difference = $120 + 30 + 90 - 80 - 10 - 70 = 80$

S16. Ans.(a)

Sol. Required ratio = 40: 90

= 4:9

S17. Ans.(d)

Sol. Required percentage = $\frac{120+30}{400} \times 100 = 37.5\%$

Solutions (18-20):

Total number of employees in all three offices=1110

The number of male employees in all three offices=$\frac{1110+250}{2} = 680$

The number of female employees in all three offices=1110-680=430

Let the number of female employees in office B=8x

The number of female employees in office C=9x

The number of female employees in office A=$\frac{9x}{2} = 4.5x$

430=8x+9x+4.5x

$x = \frac{430}{21.5}$

x=20

The number of female employees in office A=$4.5 \times 20 = 90$

The number of female employees in office B=8×20=160

The number of female employees in office C=9×20=180

The number of male employees in offices A and B=180×2=360

The number of male employees in office B=$160 \times \frac{3}{2} = 240$

The number of male employees in office A=360-240=120

The number of male employees in office C=680 – 120 – 240=320

Office	Males	Females	Total
A	120	90	210
B	240	160	400
C	320	180	500

S18. Ans.(b)

Sol. The number of male employees in office D= 530-320 = 210

The number of employees in office D=$\frac{210}{7} \times 12 = 360$

S19. Ans.(e)

Sol. The number of male employees in offices A and B=120+240=360

Required difference = 360-160 = 200 more

S20. Ans.(a)

Sol. Required percentage=$\frac{90}{240} \times 100 = 37.5\%$

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Solutions (21-24):

Let total number of boys in school B be x

Number of boys in school A = x-40

Number of boys in school C = x-80

Number of boys in school D = x-120

ATQ.

$x + x - 40 + x - 80 + x - 120 = 800$

$4x = 1040$

$x = 260$

Number of boys in school C = (260 – 80) = 180

Number of girls in school C $= 180 \times \frac{5}{9} = 100$

Number of girls in school A $= (260 - 40) \times \frac{80}{100} = 176$

Number of girls in school D $= 167 \times 2 - (260 - 120) = 194$

Number of girls in school B $= 650 - 100 - 176 - 194 = 180$

School	Boys	Girls
A	220	176
B	260	180
C	180	100
D	140	194

S21. Ans.(b)

Sol. Required percentage $= \frac{180-180}{180} \times 100 = 0\%$

S22. Ans.(a)

Sol. Required difference $= 260 - 194 = 66$

S23. Ans.(d)

Sol. Number of girls in school E $= 100 \times \frac{125}{100} = 125$

Number of boys in school E $= 125 \times \frac{8}{5} = 200$

Required ratio $= (125 + 200) : (180 + 100)$

$= 325 : 280 = 65 : 56$

S24. Ans.(e)

Sol. New number of boys in school D $= 140 + 180 \times \frac{40}{100} = 140 + 72 = 212$

New number of girls in school D $= 194 + 100 \times \frac{20}{100} = 194 + 20 = 214$

Required difference = 214 – 212 = 2

Solutions (25-28):

Let students likes only mock test C = 4x

And students like only mock test A = $4x \times \frac{175}{100} = 7x$

Students likes mock test B & C together but not A = $\frac{7x}{7} \times 2 = 2x$

Students likes all three-mock test = 50

Students likes mock test only B = $\frac{5}{4} \times 4x = 5x$

Students likes mock test A & B together but not C = $110 - 50 = 60$

Students likes mock test A & C together but not B = $\frac{60}{2} \times 3 = 90$

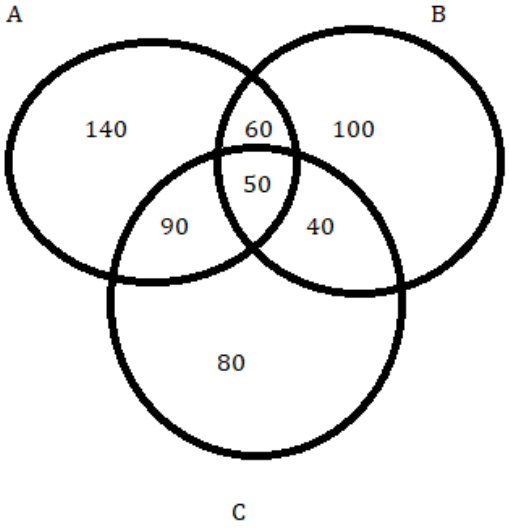
Students don't like any test = 140

Students like test = $\frac{140}{20} \times 80 = 560$

$7x + 60 + 5x + 90 + 50 + 2x + 4x = 560$

$18x = 360$

$x = 20$



S25. Ans.(e)

Sol. Students like mock test B and C together but not A = 40

Required difference = 140 – 40 = 100

S26. Ans.(b)

Sol. Required number = 100

S27. Ans.(a)

Sol. Required ratio = 50 : 80

= 5 : 8

S28. Ans.(c)

Sol. Students likes at least two mocks = 90 + 60 + 40 + 50 = 240

Solutions (29-31):
Given, Number of people travelling in bus from A=100
Number of people travelling in train from B= $2 \times 100 = 200$
Number of people travelling in car from A= $200 \times \frac{1}{4} = 50$
Number of people travelling in train from A= $400 - (100 + 50) = 250$
Number of people travelling in bus and car from B= $600 - 200 = 400$
Number of people travelling in bus from B= $400 \times \frac{3}{5} = 240$
Number of people travelling in car from B= $400 - 240 = 160$

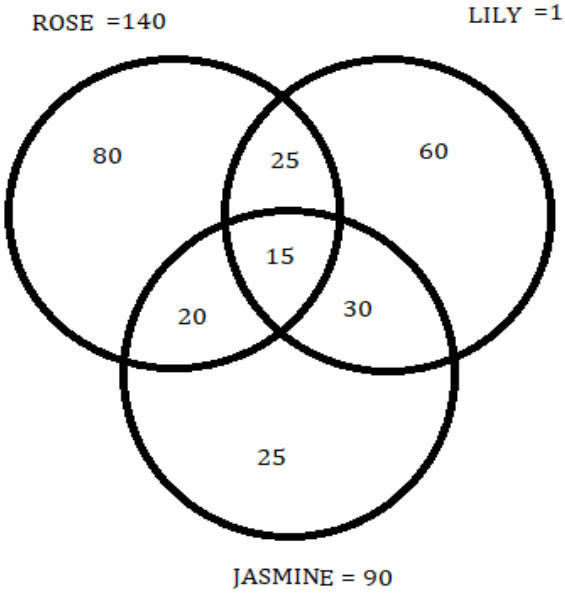
S29. Ans.(a)
Sol. Required percent= $\frac{200-50}{50} \times 100 = 300\%$

S30. Ans.(e)
Sol. Required number= $50 + 160 = 210$

S31. Ans.(e)
Sol. Required ratio= $240:250 = 24:25$

Solutions (32-36):
People who use only rose and only lily be 4x & 3x respectively.
People who use all the three types of flowers = 15
People who use both rose & jasmine = ¼ th of 4x = x
People who use both rose & lily = $\frac{x+30}{2}$
ATQ,
$4x + \frac{x+30}{2} + 3x + 30 + 15 + x = 230$
$17x = 340$
$x = 20$

People who use only jasmine = $\frac{\frac{x+30}{2}+x+30}{3} = 25$



S32. Ans.(a)

Sol. Required percentage $=\frac{140-90}{90} \times 100 = \frac{500}{9}\% = 55.55\%$

S33. Ans.(e)

Sol. Total number of people who use at most one flower $= \frac{80+60+25}{3} = \frac{165}{3} = 55$

S34. Ans.(d)

Sol. Total number of people who use only lily flower = 60

Total number of people who use at least two flowers $= 20 + 25 + 30 + 15 = 90$

Req. difference = 90 – 60 = 30

S35. Ans.(b)

Sol. Required ratio = 20 : 25= 4:5

S36. Ans.(a)

Sol. Required difference = (80+60+25) – (25+30+20) = 165 – 75 = 90

Solutions (37–40):

Let total employees be 100x

Employees using Shuttle = 52x

Employees using only metro = $(100x - 52x) \times \frac{15}{24} = 30x$

Employees using only metro & car both = $(100x - 52x) \times \frac{4}{24} = 8x$

Employees using only car = $(100x - 52x) \times \frac{5}{24} = 10x$

Employees using all three modes = 260 – (30x + 8x + 10x) = 260 – 48x

S37. Ans.(b)

Sol. ATQ, $260 - 48x = \frac{1}{2} \times 8x = 4x$

x = 5

required answer = 52x = 260

S38. Ans.(d)

Sol. 100x = 400

x = 4

required answer = 260 – 48x = 68

S39. Ans.(b)

Sol. Employees using only Shuttle = $30x \times \frac{2}{3} = 20x$

ATQ, 52x = 180 + 20x + 260 – 48x

On solving, x = 5.5

Required answer = 30x – 10x = 20x = 110

S40. Ans.(a)

Sol. Required % = $\frac{30x-10x}{10x} \times 100 = 200\%$

Solutions (41-43):

1 day work of Mahi = 1 day work of all three – 1 day work Chiku & Gabbar

$\frac{2}{X} - \frac{1}{7.5} = \frac{1}{X+5}$

$2X^2 - 5x - 150 = 0$

X = 10 & - 7.5 (neglecting negative value)

X = 10 days (time taken by Chiku)

Time taken by Mahi = X + 5 =15 days

1 day work of Gabbar = $\frac{1}{7.5} - \frac{1}{X} = \frac{1}{30}$ $units$

	Time (days)	Work (units)	Efficiency (units/day)
Chiku	10	60	6
Mahi	15	60	4
Gabbar	30	60	2

S41. Ans.(b)

Sol. Required time = 30 days

S42. Ans.(e)

Sol. Y = $10^3 - 10(10)^2 + 12(10) - 12$

= 120 – 12 = 108

S43. Ans.(c)

Sol. Required ratio = $\frac{60}{6+4} : \frac{60}{4} = 2 : 5$

Solutions (44-48):

Students who like only pen R be x

Students who like only pen P = x+20

Students who like only pen Q = $\frac{60}{100} \times (x + 20)$

Students who like only pen Q and R together = $\frac{x+20}{8} \times 3$

Given, $\left(\frac{60}{100} \times (x + 20) + \frac{x}{2} + \frac{x+20}{8} \times 3\right) = 108$

$\left(\frac{3x}{5} + 12\right) + \frac{x}{2} + \frac{3x + 60}{8} = 108$

$\frac{24x + 20x + 15x + 300}{40} = 96$

$\frac{59x + 300}{40} = 96$

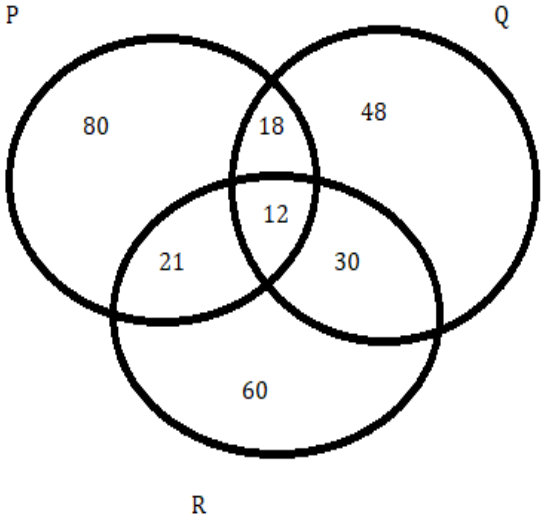
$x = 60$

Total number of students who like only two pens = $23 \times 3 = 69$

Students who like only pen P and Q together = 30 -12 = 18

Students who like only pen Q and R together = $\frac{x+20}{8} \times 3 = \frac{80}{8} \times 3 = 30$

Students who like only pen P and R together $= 69 - 18 - 30 = 21$



S44. Ans.(d)

Sol. Students who like at least two pens = $21 + 12 + 30 + 18 = 81$

S45. Ans.(b)

Sol. Required ratio = $18 : 60 = 3:10$

S46. Ans.(e)

Sol. Students who like at most one pen = $80 + 48 + 60 = 188$

Required difference = 188 – 30 = 158

S47. Ans.(c)

Sol. Students who don't like any pen = $329 - (80 + 18 + 48 + 21 + 12 + 30 + 60)$

$= 329 - 269 = 60$

S48. Ans.(c)

Sol. Required percentage = $\frac{80-30}{30} \times 100 = 166.67\%$

Solutions (49-53):

Let the total distance travelled by A be x km.

So, distance travelled by C = 4x

Distance travelled by B = x+100

Distance travelled by D = 8x

Distance travelled by E = 4x – 100

Average speed = $\frac{x+4x+x+100+8x+4x-100}{18} = 50$

$x = 50\ km$

Speed of C = $\frac{200}{4} = 50\ km/hr$

Friends	Distance (km)	Time (hour)
A	50	1
B	150	3
C	200	4
D	400	8
E	100	2

S49. Ans.(a)

Sol. Total distance = $50 \times 18 = 900\ km$

S50. Ans.(b)

Sol. Required ratio = (50+150):(200+400) =200:600=1:3

S51. Ans.(c)

Sol. Required percentage = $\frac{(400+100)-150}{150} \times 100 = 233\frac{1}{3}\%$

S52. Ans.(d)

Sol. Required answer = $\frac{120}{100} \times 150 \times \frac{1}{50} + \frac{125}{100} \times 200 \times \frac{1}{50} = 3.6 + 5 = 8.6\ hours$

S53. Ans.(a)

Sol. Required answer = (8+1) – (4+2) = 9 – 6 = 3 hours