Ratio and Proportion for SSC Exams

Ratio and Proportion for SSC Exams

Ratio and Proportion for SSC CGL/CHSL Tier I Exams

1) Find the mean proportion of 81 and 9

a) 18

b) 17

c) 23

d) 27

2) If x+2, x – 1, 4 and 3 are in proportion then find the mean proportional to x and $4x^2$

a) 15

b) 20

c) 10

d) 12

3) The ratio of men and women in a group is 5:2.If 6 men and 6 women left the group then the ratio becomes 8:3.Find the total number of people in the group initially?

a) 220

b) 230

c) 210

d) None of the above

4) Income of A is 40% less than the income of B and expenditure of A is 40% of B's expenditure. If income of A is 70% of expenditure of B then find the ratio between the saving of A and B.

a) 8 : 15

b) 9 : 5

c) 9 : 25

d) 7 : 13

5) Some amount Rs. x was divided among A, B, C and D in the ratio 1/5 : ½ : 1/3 : 1/4. If the difference between the shares of A and C is Rs.560 then find the total amount x (in rupees)

a) 6000

b) 5480

c) 5390

d) 5400

Ratio and Proportion for SSC Exams

6) Three numbers are in ratio 2 : 3 : 5. If the sum of the squares of those three numbers is 342 then find the sum of the three numbers

a) 50

b) 40

c) 30S

d) 60

7) If A : B = 4 : 5 and C : B = 7 : 6 then find the ratio between A : B : C

a) 24 : 5 : 30

b) 24 : 30 : 35

c) 24 : 35 : 30

d) 30 : 35 : 24

8) The total number of 3 different colored pens in a box is 91. If the ratio between red colored and green colored pen is 5 : 2 and the number of green pen is 33 1/3% of blue pens then find the difference between the red colored and green colored pen.

a) 28

b) 35

c) 21

d) 14

9) If the ratio of three sides of a triangle is 3 : 4 : 5 then find the difference between the smallest and largest angle. (in degrees)

a) 30°

b) 15°

c) 45°

d) 50°

10) If 4A = 5B = 6C then find the ratio of A : B : C

a) 12 : 15 : 10

b) 10 : 12 : 15

c) 15 : 10 : 12

d) 15 : 12 : 10

11) If A is twice of B and C is twice of B then find the ratio of A:B:C is:

a) 1 : 2 : 2

b) 2 : 1: 2

c) 2 : 3 : 4

d) 1: 2 : 3

Ratio and Proportion for SSC Exams

12) If A : B = 5 : 4 and A is 19 more than B then find the sum of A and B.

a) 175

b) 171

c) 185

d) 186

13) The ratio of marks obtained by Suresh in half yearly examination to Annual examination is 9/10. If he got 50 marks more in half yearly examination then the ratio would have been become 1 : 1. Find the total marks for which he wrote the half yearly exam if the mark obtained in the same exam is 45% of the total marks.

a) 600

b) 750

c) 1000

d) 950

14) If A : B = 5 : 4 and C : B = 8 : 7 then find the value of A + B : B + C : C + A

a) 63 : 60 : 67

b) 60 : 51 : 53

c) 63 : 54 : 52

d) None of the above

15) The ratio of number of boys and girls in a school is 2 : 3. If 30% of girls is 6 more than the 30% of boys then find the total number of students in the school.

a) 80

b) 60S

c) 70

d) 100

16) A bag contains 25 P coins 50 P coins and 1 rupee coins in the ratio 10: 5: 2, amounting to Rs. 112. Find the total number of coins in the bag.

a) 242

b) 172

c) 272

d) 232

17) Find the third proportion to 16,64

a) 246

b) 236

c) 256

d) 634

Ratio and Proportion for SSC Exams

18) If a/(b + c) = 1 : 2 then find the ratio between a/(a + b + c)

a) 2/3

b) 3/4

c) 5/6

d) 1/3

19) If a/(b – c) = 3 : 2 then find the value of (a – b + c)/(a + b – c)

a) 1/5

b) 2/5

c) 5/1

d) 5/7

20) The ratio between the passed to fail student in an exam is 3:4.If 10 more students passed the ratio would have been 23:19.Out of the students passed 1/3rd are boys then find the total number of girls who passed in exam.

a) 44

b) 56

c) 36

d) 24

21) The ratio between the valid and invalid vote is 4 : 1. If 70% of valid vote is equal to 6300 then find the difference between the valid and invalid votes.

a) 7450

b) 7250

c) 6650

d) 6750

22) The ratio between the prices of two articles is 5:6. If the price of first article is increased by 20% and the price of second by 33 1/3% then find the new ratio.

a) 3:4

b) 4:3

c) 2:3

d) 3:2

23) Find the ratio of A, B and C if A is 30% more than B and B is 20% more than C.

a) 39 : 34 : 25

b) 39 : 30 : 25

c) 29 : 30 : 25

d) 39 : 30 : 28

Ratio and Proportion for SSC Exams

24) The number of people in a village is 6400. If the ratio between then male to female population is (x + 2) : (x + 4) then find the value of x

a) 3199

b) 3201

c) 3197

d) 3204

25) If the ratio between A, B and C is 5 : 7 : 9 then find the ratio between 1/A, 1/B and 1/C.

a) 63 : 47 : 35

b) 63 : 45 : 37

c) 63 : 45 : 35

d) 64 : 45 : 35

26) If a/7 = b/3 = c/5 then find the ratio between a,b and c

a) 3 : 4 : 5

b) 3 : 6 : 7

c) 7 : 3 : 5

d) 5 : 7 : 3

27) Three persons A, B and C went to hotel and paid the bill amount of Rs. 600 in the following way. A paid half of the amount paid by both B and C , B paid $1/5^{th}$ of the amount paid by both A and C then find the amount paid by C.

a) 200

b) 300

c) 100

d) 400

28) The ratio between the number of pen and pencils is 5 : 6 and the ratio of cost of per pen and pencil is 4 : 3 then find the percentage by which total cost of pen is greater than the total cost of pencil.

a) 12.23%

b) 11.11%

c) 13.15%

d) 14.56%

29) If A : B + C = 2 : 5, B : A + C = 1 : 2 then find C : A + B?

a) 8 : 13

b) 5 : 13

Ratio and Proportion for SSC Exams

c) 13 : 8

d) 13 : 5

30) Total income of A and B is Rs.5000 if A save 20% and B saves 30% and their savings are in the ratio 4:9. Find their individual income.

a) 1500, 3500

b) 1700, 3300

c) 1000, 4000

d) 2000, 3000

31) Ravi's expenditure and savings is in the ratio 3 : 1 if the income increases by 50% and expenses increases by 20% then find the percentage increase in savings

a) 75%

b) 50%

c) 100%

d) 125%

32) If A and B is in the ratio 3:2 and the difference between them is 8 then find the difference between their squares

a) 160

b) 280

c) 320

d) 480

33) The ratio between cost of two idly and one dosa is 2 : 5 and the ratio between cost of one idly and two dosa is 1 : 10 then find the ratio between three idly and two dosa.

a) 2 : 15

b) 3 : 10

c) 3 : 20

d) 4 : 13

34) Some amount was divided among A, B and C in the ratio 4 : 6 : 9. If the share of A is 50 less than share of C then find the 1/5th of total amount (in Rs).

a) 48

b) 38

c) 45

d) 35

35) Income of A and B is in the ratio 6 : 7, their expenses is in the ratio 4 : 3 if their savings are

Ratio and Proportion for SSC Exams

Rs.2000 and Rs.4000 then find the sum of their incomes (in Rs.)

a) 12000

b) 14000

c) 13000

d) 13500

36) If the ratio of income of Raj and Raghu is y^2/x^2 and the ratio of their saving is y/x then find the ratio of expenditures

a) $y(y - 1)/x(x + 1)$

b) $y(1 - y)/x(1 - x)$

c) $y(y + 1)/x(x + 1)$

d) $y(y + 1)/x(x - 1)$

37) Rs. 1500 was divided among A and B such that if Rs.50 and Rs.25 is deducted from the shares of A and B respectively then the ratio becomes 34:23. Find the difference between their shares

a) 350

b) 450

c) 300

d) 900

38) The ratio of number of hen to goat is 2 : 3 and the ratio of number of legs of hen and goat is 1 : 3. If the difference between the total legs of hen and total legs of goat is 80 then find the total number of hens.

a) 30

b) 12

c) 20

d) 24

39) If the ratio between the squares of A and B is 9 : 25 if the difference between their squares is 144 then find the value of A^3.

a) 64

b) 729

c) 1000

d) 512

40) The ratio of marks obtained by Ram and Raghu in an entrance examination is 4 : 5. Raghu score is 5 more than the cut off score and Ram score is 3 less than the cut off score then find the cutoff score.

a) 32

b) 34

Ratio and Proportion for SSC Exams

c) 35

d) 38

41) Sita and Geetha had some number of stones initially in the ratio 9 : 11. Sita gave some number of stones to Geetha then the ratio becomes 7 : 13 then find what fraction of stones are given to Geetha by Sita against her initial value.

a) 6/7

b) 8/9

c) 2/9

d) 3/5

42) A and B contest in an election, if the ratio between the valid votes and the vote got by A is 5:3 and the ratio of invalid votes and vote got by B is 1:2 and the ratio between the valid and invalid votes is 5:1 then find the ratio between the votes got by A and B.

a) 2:3

b) 2:1

c) 3:2

d) 1:2

43) A and B participated in an election. If the ratio between the valid and invalid votes is 6 : 1 and out of the valid votes if A got 20% of vote more than B then find the fraction of vote got by A out of total votes(including invalid votes)

a) 5/11

b) 4/11

c) 36/77

d) 37/77

44) If the area of rectangle is 168 sq units and ratio between the length and breadth is in the ratio 14 : 3 then find the difference between the length and breadth.

a) 24

b) 22

c) 14

d) 16

45) If A : B : C : D = 4 : 6 : 7 : 9 and A + C = 3454 then find the sum of A and B.

a) 3250

b) 3140

c) 3540

d) 3658

Ratio and Proportion for SSC Exams

46) If A : B = 4 : 5 , B : C = 8 : 9 and C : D = 6 : 7 then find the value of A : B : C : D

a) 64 : 80 : 90 : 107

b) 65 : 80 : 90 : 105

c) 64 : 80 : 90 : 105

d) 64 : 81 : 90 : 105

47) Find the fourth proportion of 14, 18, 28

a) 26

b) 24

c) 36

d) 38

48) x varies inversely as square of y and given that y=4 for x=4.Find the value of x for y=8

a) 4

b) 6

c) 2

d) 1

49) The ratio of number of students in class A,B and C is 7:9:11.If the students increased by 10%,15% and 25% respectively in classes A,B and C then find the new ratio of students after increment.

a) 144:207:275

b) 154:217:275

c) 154:207:275

d) 154:207:276

50) If the ratio between A and B is 7 : 13 and A increased by 24% and B decreased by 25% then find the revised ratio

a) 168 : 329

b) 168 : 325

c) 168 : 345

d) 168 : 327

ANSWERS

1) Answer: D

Solution:

Mean proportion of 81 and 9 =√(81*9)=27

2) Answer: B

Ratio and Proportion for SSC Exams

Solution:

(x + 2)/(x – 1) = 4/3

3x + 6 = 4x – 4

X = 10

Mean proportional to x and 4x=√x*4x =2x

=2(10) = 20

3) Answer: C

Solution:

Initially, M : W = 5x : 2x

After some people left then the ratio of M : W = 8y : 3y

5x – 6 = 8y ---- (1)

2x – 6 = 3y --- (2)

Solving (1) and (2) x = 30

Then total number of people in the group initially = 5x + 2x = 7x = 7(30) = 210

Alternative Method

5x – 6 /2x – 6 = 8/3

X=30

Then total number of people in the group initially = 5x + 2x = 7x = 7(30) = 210

4) Answer: B

Solution:

Let income of B is 100x

Then income of A is 60x

Let expenditure of B is 100y

Then expenditure of A is 40y

Given, income of A is 70% of expenditure of B

60x = (70/100)100y

6x = 7y

Saving of A/Saving of B = (60x – 40y)/(100x – 100y)

Put the value of x in above

= (70y – 40y)/((700y/6) – 100y)

=30y/(100y/6)

=9/5 = 9 : 5

5) Answer: C

Solution:

A:B:C:D=(1/5)y :(1/2)y:(1/3)y:(1/4)y

Ratio and Proportion for SSC Exams

Let consider y=60 which is least common multiple of all denominators

A : B : C : D = 12 : 30 : 20 : 15

A – C = 20y – 12y = 8y

8y = 560

Y = 70

Total amount = 12y + 30y + 20y + 15y = 77y = 77(70) = 5390

6) Answer: C

Solution:

A : B : C = 2x : 3x : 5x

$A^2 + B^2 + C^2 = 4x^2 + 9x^2 + 25x^2 = 38x^2$

$38x^2 = 342$

X = 3

A + B + C=2x + 3x + 5x = 10x = 30

7) Answer: B

Solution:

A : B = 4 : 5

B : C = 6 : 7

Since B is common in both ratio, multiply A : B with 6 and B : C with 4

Then, A : B = 24 : 30

B : C = 30 : 35

Combining the above two ratios

A : B: C = 24 : 30 : 35

8) Answer: C

Solution:

R: G =5x : 2x

G=33 1/3% of B

2x = 33 1/3% of B

2x = (100/3)/100 of B

B = 2x(300/100)

B = 6x

R : G : B = 5x : 2x : 6x

R + G + B = 91

13x = 91

X = 7

R – G = 5x - 2x = 3x = 3(7) =21

Ratio and Proportion for SSC Exams

9) Answer: A

Solution:

Ratio of three sides = 3x : 4x : 5x

Sum of three sides = 3x + 4x + 5x = 180°

12x = 180°

X = 15°

Difference between smallest and largest angle = 5x – 3x = 2x

=2(15) = 30°

10) Answer: D

Solution:

Consider 4A = 5B = 6C = k

A = k/4, B = k/5, C = k/6

A : B : C = k/4 : k/5 : k/6

LCM of 4, 5 and 6 is 60.Consider this as k

A : B : C = 60/4 : 60/5 : 60/6 =15 : 12 : 10

11) Answer: B

Solution:

A = 2B

A : B = 2 : 1

C = 2B

C : B = 2 : 1

B : C = 1 : 2

A : B : C = 2 : 1 : 2

12) Answer: B

Solution:

A : B = 5 : 4

Let x be the common multiplier then

A : B = 5x : 4x

A = B + 19

5x = 4x + 19

X = 19

A + B = 5x + 4x = 9x

=9(19) = 171

13) Answer: C

Solution:

H : A = 9 : 10

10H = 9A ------- (1)

Ratio and Proportion for SSC Exams

(H + 50) : A = 1 : 1

H + 50 = A ----- (2)

Put the value of A in (2)

H + 50 = 10H/9

9H + 450 = 10H

H = 450

Half yearly marks = 45% of total marks

450 = 45% of Total

Total marks 100% = 100*450/45 = 1000

14) Answer: A

Solution:

A : B = 5 : 4

B : C = 7 : 8

A : B : C = 35 : 28 : 32

The terms are: A = 35x, B = 28x, C = 32x

A + B : B + C : C + A = 63x : 60x : 67x

A + B : B + C : C+ A = 63 : 60 : 67

15) Answer: D

Solution:

B : G = 2x : 3x

30% of G = (30% of B) + 6

30% of 3x = (30% of 2x) + 6

9x/10 = 6x/10 + 6

X = 20

B + G = 2x + 3x = 5(20) = 100

16) Answer: C

Let ratio be x.

Hence no. of coins be 10x ,5x , 2x respectively

Now given total amount = Rs.112

=> (10x)/4 + (5x)/2 +(2x) = 112

We get x = 16

The total number of coins=10*16+5*16+2*16=272

17) Answer: C

Solution:

16:64::64:x

Third proportion to 16 and 64 is given by = 64*64/16 =256

Ratio and Proportion for SSC Exams

18) Answer: D

Solution:

a/(b + c) = 1 : 2 ---(1)

By componendo method

(a + b + c)/(b + c) = (1 + 2)/2 = 3/2 ------- (2)

(1) ÷ by (2)

a/(a + b + c) = 1/(1 + 2) = 1/3

19) Answer: A

Solution:

a: (b – c) = 3 : 2

By componendo method

(a + b – c)/(b – c) = 5/2 ---(1)

By dividendo method

(a – b + c)/(b – c) = 1/2 ---(2)

(2) ÷ (1)=> (a – b + c)/(a + b – c) = 1/5

20) Answer: D

Solution:

Let P and F be the pass and failed students respectively

P : F = 3 : 4

P = 3F/4

10 more students passed the exam

Then the ratio becomes,

(P + 10) : (F – 10) = 23 : 19

19P + 190 = 23F – 230

23F – 19P = 420 –------ (1)

Put the value of P in (1)

23F – 19(3F/4) = 420

23F – 57F/4 = 420

(92F – 57F)/4 = 420

35F = 420*4

F = 48

P = 3(48)/4 = 36

(1/3)P = Boys who passed

Boys who passed = 12

Girls who passed = Total passed – Boys who passed

= 36 – 12 = 24

21) Answer: D

Solution:

Ratio and Proportion for SSC Exams

Valid : Invalid = 4 : 1

70% of valid vote = 6300

100% = 100*6300/70 = 9000

Valid – Invalid votes = 4x – x = 3x

Since 4x = 9000

X=9000/4

3x = 3*9000/4 =3*2250=6750

Difference between the valid and invalid votes = 6750

22) Answer: A

Solution:

Article 1: Article 2 = 5 : 6

120% of article 1 : 133 1/3% of article 2 = 120%(5) : 133 1/3%(6)

= (6/5)(5) : (4/3)(6)

= 6 : 8 = 3 : 4

23) Answer: B

Solution:

A = 130% of B

A/B = 13/10

B = 120% of C

B/C = 6/5

A : B = 13 : 10

B : C = 6 : 5

A : B : C = 78 : 60 : 50

= 39 : 30 : 25

24) Answer: C

Solution:

Male : female = (x + 2) : (x + 4)

Total population = 6400

X + 2 + x + 4 = 6400

2x + 6 = 6400

X + 3 = 3200

X = 3197

25) Answer: C

Solution:

A : B : C = 5 : 7 : 9

1/A : 1/B : 1/C = 1/5 : 1/7 : 1/9

= 63 : 45 : 35

Ratio and Proportion for SSC Exams

26) Answer: C

Solution:

Let a/7 = b/3 = c/5 = k

A = 7k, b = 3k, c = 5k

a : b : c = 7k : 3k : 5k

= 7 : 3 : 5

27) Answer: B

Solution:

Total bill amount: 600

A : (B + C) = 1/2

A + B + C = 600

3A = 600

A = 200

B : (A + C) = 1/5

A + B + C = 600

6B = 600

B = 100

C = 600 – 200 – 100 = 300

28) Answer: B

Solution:

Number => Pen : Pencil = 5x : 6x

Cost => Pen : pencil = 4y : 3y

Total cost => Pen : Pencil = 20xy : 18xy

% greater= (20xy-18xy)*100/18xy

= 100/9 = 11.11%

29) Answer: A

Solution:

A : (B + C) = 2 : 5 (Total 7) ------ (1)

B : (A + C) = 1 : 2 (Total 3) ----- (2)

As both sums should be same, multiply (1) by 3 and (2) by 7

(1) => A : (B + C) = 6 : 15

(2)=> B : (A + C) = 7 : 14

Since B = 7units, C = 15 – 7 = 8 units

C/(A+B) = 8/(6+7)

= 8 : 13

30) Answer: D

Solution:

Ratio and Proportion for SSC Exams

Let the income of A and B is x and y

X + y = 5000 -------- (1)

20%x : 30%y = 4 : 9

x/5 : 3y/10 = 4 : 9

2x : 3y = 4 : 9

x/y = 2/3

Put the value of x in (1)

2y/3 + y = 5000

5y/3 = 5000

Y = 3000

X = 5000 – 3000 = 2000

31) Answer: C

Solution:

Expenditure : Saving = 3 : 1 ------- (1)

Income = 3 + 1 = 4 units

Income increases by 50% = 150% of 4 units =6 units

Expenditure increases by 20% = 120% of 3 units = 18/5 units

Savings = Income – Expenditure

= 6 – 18/5 = 12/5

Revised

Expenditure : Saving = 18/5:12/5

= 3 : 2 –------ (2)

On comparing (1) and (2)

Saving is incremented by 1 unit which is equivalent to 100%

32) Answer: C

Solution:

A : B = 3 : 2

A – B = 8

3 – 2 units = 8

1 unit = 8

A + B = 3 + 2 = 5 units

A + B = 40

$A^2-B^2 = (A + B)(A – B)$

= 40*8 = 320

Alternative method

A : B = 3 : 2

Ratio and Proportion for SSC Exams

a-b=8

3x-2x=8

X=8

$A^2-B^2=(3x)^2-(2x)^2$

$=9x^2-4x^{2=}9*64-4*64$

=64*5=320

33) Answer: B

Solution:

Let the I and D be the Idly and Dosa respectively

2I : D = 2 : 5 ------- (1)

I : 2D = 1 : 10 –---- (2)

Comparing (1) and (2)

I : D = 1 : 5

So price of one idly is 1unit and one dosa is 5 unit

3I : 2D = 3(1) : 2(5)

= 3 : 10

34) Answer: B

Solution:

A : B : C = 4 : 6 : 9

A : B : C = 4x : 6x : 9x

A = C – 50

4x = 9x – 50

X = 10

A + B + C = 4x + 6x + 9x

= 19x = 19*10 = 190

$1/5^{th}$ of (A + B + C) = 190/5

= 38

35) Answer: C

Solution:

Income A : B = 6x : 7x

Expenses A : B = 4y : 3y

Savings = 2000 : 4000

Income of A=> 6x = 4y + 2000

6x – 4y = 2000 –------ (1)

Income of B=>7x = 3y + 4000

7x – 3y = 4000 ------ (2)

Solving (1) and (2)

X = 1000

Sum of the incomes = 6x + 7x = 13x

Ratio and Proportion for SSC Exams

=13(1000) = 13000

36) Answer: B

Solution:

Ratio of income Raj : Raghu = y^2/x^2

Ratio of savings Raj : Raghu =y/x

Ratio of expenditures = $(y^2-y)/(x^2-x)$

= y(y-1)/x(x-1)

= (-y)(1-y)/(-x)(1-x)

= y(1-y)/x(1-x)

37) Answer: C

Solution:

Let the shares be A and B

(A – 50) : (B – 25) = 34 : 23

23(A – 50) = 34(B – 25)

23A – 1150 = 34B – 850

23A – 34B = 300 --------- (1)

A + B =1500 ---------- (2)

Solving (1) and (2)

A = 900 and B = 600

A – B = 900 – 600 = 300

38) Answer: C

Solution:

Number=> Hen : Goat = 2 : 3

Number of legs=> Hen : Goat = 1 : 3

Let hen be H and goat be G

Then H : G = 2 : 3

2H : 4G = 1 : 3 {legs count}

H : 2G = 1 : 3

Difference between the legs = 2 parts = 80

Then, 1 part = 40

Since H = 1 part then Total number of hens leg = 40

Number of hens = 40/2 =20 (As, 2 for 2 legs/hen)

39) Answer: B

Solution:

$A^2 : B^2 = 9 : 25$

$B^2 – A^2 = 144$ (Since B>A)

Put the value of B^2 in the above expression

$25A^2/9 – A^2 = 144$

Ratio and Proportion for SSC Exams

$16A^2/9 = 144$

$A^2 = 144*9/16$

$A = 12*3/4 = 9$

$A^3 = 729$

40) Answer: C

Solution:

Let marks obtained by Ram and Raghu is x and y respectively.

X : y = 4 : 5

Let cut off score is z then

X = z – 3 and y = z + 5

Equating the above two expression for z then

X + 3 = y – 5

X – y = - 8

Put the value of y = 5x/4 in above expression then

X – 5x/4 = - 8

-x/4 = - 8

X = 32

Since cut off score z = x + 3

Z = 32 + 3 = 35

41) Answer: C

Solution:

Initially S : G = 9x : 11x(Total 20x units)

After exchange S : G = 7y : 13y (Total 20y uints)

Irrespective of the exchange total units is same (i.e.) 20x = 20y

The above expression is equal only when x = y

So, fraction of stones given by Sita to Geetha against her original = (9x – 7y)/9x

Since x = y, put y = x in above expression,

= (9x – 7x)/9x

=2x/9x = 2 : 9

42) Answer: C

Solution:

Let A, B, V and IV be the votes got by A,B and valid and invalid votes respectively.

V : A = 5 : 3 ----- (1)

IV : B = 1 : 2 ---- (2)

V : IV = 5 : 1 ---- (3)

Ratio and Proportion for SSC Exams

On comparing (2) and (3)

V : IV : B = 5 : 1 : 2 ----- (4)

On comparing (4) and (1)

V : IV : A : B = 5 : 1 : 3 : 2

From the above,

A : B = 3 : 2

43) Answer: C

Solution:

Valid : Invalid = 6x : 1x

A : B = 6y : 5y (Since A = 120% of B)

Since total votes =7x

Votes got by A = 6y

Votes got by A = (total valid votes*A's part)/(Total parts of A and B)

= (6x*6)/11 = 6y (Votes got by A)

Votes by A: total votes = 6y : 7x

= ((6x*6)/11)/7x = 36/77

44) Answer: B

Solution:

Let the length and breadth be l and b respectively

L : b = 14 : 3

l*b = 168 --------- (1)

Put the value of b in the above expression then

3l/14 *l = 168

l^2 = 56*14

l = 28

Put l = 28 in (1) then b = 6

Difference l – b = 28 – 6 = 22

45) Answer: B

Solution:

A : B : C : D = 4 : 6 : 7 : 9

A + C = 4x + 7x = 11x

3454 = 11x

X = 3454/11

= 314

A + B = 4x + 6x = 10x

= 10(314)

= 3140

Ratio and Proportion for SSC Exams

46) Answer: C

Solution:

A : B = 4 : 5 -------- (1)

B : C = 8 : 9 -------- (2)

C : D = 6 : 7 -------– (3)

From (1) and (2)

Multiply (1) by 8 and (2) by 5

Then, (1)=>A : B = 32 : 40

(2)=> B : C = 40 : 45

Therefore

A : B : C = 32 : 40 : 45 -------- (4)

From (4) and (3)

Multiply (4) by 2 and (3) by 15

Then(3) => C:D=90:105

(4)=>A : B : C = 64 : 80 : 90

Therefore,

A : B : C : D = 64 : 80 : 90 : 105

47) Answer: C

Solution:

Since the given number are in proportion then,

14/18 = 28/x

X = 28*18/14

X = 36

48) Answer: D

Solution:

$X = k/y^2$ (K is proportionality constant) –---------- (1)

Put the values of x and y

4 = k/16

K = 64

Put the value of y and k in (1)

From equation (1)

$x = 64/8^2 = 1$

49) Answer: C

Solution:

A : B : C = 7 : 9 : 11

After increment,

A : B : C = 110(7)/100 : 115(9)/100 : 125(11)/100

= 77/10 : 207/20 : 55/4

Ratio and Proportion for SSC Exams

= 154 : 207 : 275

50) Answer: B

Solution:

A : B = 7 : 13

After respective increment and decrement

A : B = (24/100)(7) : (25/100)(13)

= (6/25)(7) : (13/4)

= 42/25 : 13/4

= 168 : 325