Chapter No. 5

Ratio and Proportion

1. If A : B : C = 2 : 3 : 4 then A:B:Cis equal to:

B C A

4 : 9 : 16. B. 8 : 9 : 12. C. 8 : 9 : 16. D. 8 : 9 : 24.

Solution: Let the values of A,B,C be 2x , 3x , 4x respectively.  
Therefore A/B= 2x/3x   
                 B/C= 3x/4x  
                 C/A= 4x/2x  
= 2x/3x \* 4x/3x \* 2x/4x  
= 4/9  
A/B:B/C:C/A = 4:9:1

2. If A : B = 2 : 3, B : C = 4 : 5, C : D = 6 : 7, then A : B : C : D is:

A. 16 : 22 : 30 : 35. B. 16 : 24 : 15 : 35. C. 16 : 24 : 30 : 35. D. 18 : 24 : 30 : 35.

Solution: a:b=2:3,b:c=4:5,c:d=6:7

a:b=2×8:3×8=16:24b:c=4×6:5×6=24:30c:d=6×5:7×5=30:35soa:b:c:d=16:24:30:35

3. If 0.75 : x :: 5 : 8 then equal to :

A. 1.12. B. 1.20. C. 1.25. D. 1.30.

Solution: 0.75/x = 5/8 By cross multiplying, we get 5x = 0.75\*8 Therefore, x= 6/5 = 1.2

4. If x : y = 5 : 2 then (8x + 9y) : (8x + 2y) is :

A. 22 : 29. B. 26 : 61. C. 29 : 22. D. 61 : 26.

Solution: If x : y = 5 : 2, then (8x + 9y) : (8x + 2y) is  
Put x = 5k and y = 2k  
8x+2y8x+9y​=8×5k+2×2k8×5k+9×2k​=44k58k​=2229​  
Hence ratio is 29:22

5. The salaries of A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% allowed respectively in their salaries, then what will be the new ratio of their salaries ?

A. 3 : 3 : 10. B. 10 : 11 : 20. C. 23 : 33 : 60. D. Cannot be determined.

Solution: Let A=2k, B=3k and C=5k .  
A's new salary =115100=115100 of 2k=(115100×2k)=2310k=(115100×2k)=2310k  
B's new salary =110100=110100 of 3k =(110100×3k)=3310k=(110100×3k)=3310k  
C's new salary =120100=120100 of 5k=(120100×5k)=6k=(120100×5k)=6k  
∴∴ New ratio =23k10:33k10:6k=23:33:60=23k10:33k10:6k=23:33:60.

6. If RS. 782 be divided into three parts, proportional to 1:2:3, then the first part is : 2 3 4

A. Rs. 182. B. Rs. 190. C. Rs. 196. D. Rs. 204.

Solution: Given ratio = 21​:32​:43​     ...............   Multiplying by 12

= 6:8:9

∴ 1st part = Rs. (782×236​) = Rs. 204

7. Two numbers are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is :

A. 27. B. 33. C. 49. D. 55.

Solution:

Let the numbers be 3X and 5X

So 3X-9 :5X-9 is 12:23

solve for X we get X=11

and the numbers are 33 and 55

(33–9)/(55–9)=24/46=12/23

Numbers are 33 and 55

8. Two numbers are in the ratio 1 : 2. If 7 added to both, their ratio changes to 3 : 5. The greatest number is :

A. 24. B. 26. C. 28. D. 32.

Solution: Let smaller no be 1x and greater no be 2x

1x:2x

When we add 7

1x+7:2x+7=3:5

1x+7/2x+7=3/5

Cross multiply

(1x+7)5=(2x+7)3

5x+35=6x+21

35–21=6x-5x

14=x

Therefore smaller no is 14

Greater no is 14\*2=28

9. In a bag, there are coins of 25p, 10p and 5p in the ratio of 1 : 2 : 3. If there are Rs. 30 in all, how many 5p coins are there ?

A. 50. B. 100. C. 150. D. 200.

Solution: Let the number of 25 p, 10 p and 5 p coins be x, 2x, 3x respectively  
Then, sum of their values

=Rs.(25x100+10×2x100+5×3x100)=Rs.60x100∴60x100=30⇔x=30×10060=50Hence,thenumberof5pcoins=(3×50)=150

10. Salaries of Ravi and Sumit are in the ratio 2 : 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit’s present salary ?

A. Rs. 17,000. B. Rs. 20,000. C. Rs. 25,500. D. None of these.

Solution: let salary of Ravi = 2x  
  
salary of sumit = 3x  
  
Salaries increased by Rs 4000  
  
New ratio is 40 : 57  
  
According to the given question -  
  
  
https://tex.z-dn.net/?f=%5Cdfrac%7B2x%20%2B%204000%7D%7B3x%20%2B%204000%7D%20%3D%20%5Cdfrac%7B40%7D%7B57%7D  
  
  
https://tex.z-dn.net/?f=57(2x%20%2B%204000)%20%3D%2040(3x%20%2B%204000)  
  
  
https://tex.z-dn.net/?f=114x%20%2B%20228000%20%3D%20120x%20%2B%20160000  
  
  
https://tex.z-dn.net/?f=120x%20-%20114x%20%3D%20228000%20-%20160000  
  
https://tex.z-dn.net/?f=6x%20%3D%2068000  
  
https://tex.z-dn.net/?f=x%20%3D%20%5Cdfrac%7B68000%7D%7B6%7D  
  
https://tex.z-dn.net/?f=x%20%3D%2011333.33  
  
  
Salary of Sumit 3x = 3(11333.33) = Rs 34000.  
  
https://tex.z-dn.net/?f=%5Cbold%7BSumit%20%5C%3A%20salary%20%5C%3A%20%3D%20%5C%3A%20Rs%20%5C%3A%2034000%7D

1

11. If Rs. 510 be divided among A, B, C in such a way that A gets 2 of what B gets and B gets 1 of

what C gets, then their shares are respectively :

3 4

Rs. 120, Rs. 240, RS. 150. B. Rs. 60, Rs. 90, RS. 360. C. Rs. 150, Rs. 300, RS. 60. D. None of these.

Solution: Let the share of C be ₹x.

Then, share of B = ₹ 1/4 x

Share of A = ₹ 2/3\*1/4 x = ₹ 1/6 x

A/Q x + 1/4 x + 1/6 x = 510

=> 17/12 x = 510

=> x = 510\*12/17 = 30\*12 = 360

Share of C = ₹360

Share of B = ₹ 1/4\*360 = ₹ 90

Share of A = ₹ 1/6\*360 = ₹ 60

12. The sum of three numbers is 98. If the ratio of the first to the second is 2 : 3 and that of the second to the third is 5 : 8, then second number is :

A. 20. B. 30. C. 48. D. 58.

Solution: Let the three parts be A, B, C. Then,  
A : B = 2 : 3 and B : C = 5 : 8

=(5×35):(8×35)=3:245⇒A:B:C=2:3:245=10:15:24⇒B=98×1549=30

13. A fraction which bears the same ratio to 1that 3 does to 5is equal to:

A. 1. B. 1. C. 3. D. 55. 55 11 11

Solution:

x:(1/27) = (3/11):(5/9)

Cross multiplying

x \* (5/9) = (1/27) \* (3/11)

x = 1/55

14. A sum of Rs. 1300 is divided among P, Q, R and S such that P's share = Q's share = R's share = 2.

Then, P’s share is :

A. Rs. 140. B. Rs. 160. C. Rs. 240. D. Rs. 320.

Solution: P+Q+R+S=RS.1300.00

P/Q =Q/R=R/S= 2/3

3P=2Q ,

3Q=2R,

3R=2S

i.e. Q=3/2 P,

R= 3/2 Q = (3/2)(3P/2)=9P/4,

& S= 3R/2= 3/2 \* 9P/4 = 27P/8

We Know That

P+Q+R+S=1300 substitute Q,R,S values

=== P+ 3P/2 + 9P/4 +27P/4= 1300

=== P(1+3/2+9/4+27/8)= 1300

=== P (8+12+18+27)= 8\* 1300

=== 65P= 10400

=== P= 10400/65

=== p= 160

P's share is Rs 160 /-

15. A and B together have Rs. 1210. If 4 of A’s amount is equal to 2 of B’s amount, how much amount

does B have?

15 5

Rs. 460. B. Rs. 484. C. Rs. 550. D. Rs. 664.

Solution:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 4 | A | = | 2 | B |
| 15 | 5 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gifA = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 2 | x | 15 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gifB |
| 5 | 4 |

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gifA = | 3 | B |
| 2 |

|  |  |  |  |
| --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | A | = | 3 |
| B | 2 |

https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gifA : B = 3 : 2.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifB's share = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1210 x | 2 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 484. |
| 5 |

16. Two number are respectively 20% and 50% more than a third number. The ratio of the two numbers is :

A. 2 : 5. B. 3 : 5. C. 4 : 5. D. 6 : 7.

Solution: Let the third number be r.

So, first number = r + 20% of r = r + (20/100)\*r

First number = r + 0.2r = 1.2r

Second number = r + 50% of r = r + (50/100)\*r

Second number = r + 0.5r = 1.5r

Ratio of two numbers = First number / Second Number

= 1.2r / 1.5r

= 4/5 or 4:5

17. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a propasal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats ?

A. 2 : 3 : 4. B. 6 : 7 : 8. C. 6 : 8 : 9. D. None of these.

Solution: Originally, let the number of seats for Mathematics, Physics and Biology be 5x, 7x and 8x respectively.

Number of increased seats are (140% of 5x), (150% of 7x) and (175% of 8x).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 140 | x 5x | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | , | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 150 | x 7x | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | and | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 175 | x 8x | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| 100 | 100 | 100 |

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif7x, | 21x | and 14x. |
| 2 |

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifThe required ratio = 7x : | 21x | : 14x |
| 2 |

https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif14x : 21x : 28x

https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif2 : 3 : 4.

18. The ratio of the number of boys and girls in a college is 7 : 8. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio ?

A. 8 : 9. B. 17 : 18 C. 21 : 22. D. Cannot be determined.

Solution: Ratio of number of boys and girls in a college = 7 : 8.

Let the number of boys be 7x & number of girls be 8x.

Also given that,

Percentage increase in boys = 20%.

⟹ Number of boys = 7x \* (100 + 20)/100

⟹ Number of boys = 7x \* 120/100

⟹ Number of boys = 42x/5

Similarly,

Percentage increase in girls = 10%

⟹ Number of girls = 8x \* (100 + 10)/100

⟹ Number of girls = 8x \* 110/100

⟹ Number of girls = 44x/5

Hence,

New ratio = (42x/5) / (44x/5)

⟹ New ratio = 42x/5 \* (5x/44)

⟹ New ratio = 21/22

⟹ New ratio = 21 : 22

19. A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 100 more than D, what is B’s share ?

A. Rs. 500. B. Rs. 1500. C. Rs. 2000. D. None of these .

Solution: let x be the ratio factor .  
so , 5x+2x+4x+3x = total money .  
so, we can say 5\*x is the money given to A,  
2\*x is the money given to B,  
4\*x is the money given to C,  
3\*x is the money given to D.  
now , it is said that C gets 1000 more than D .  
ie difference between the amount C and D get is 1000.  
so ,  
4\*x-3\*x=1000.  
x=1000.  
so we found the ratio factor to be 1000.  
now the amount of money B get is equal to 2\*x = 2\*1000= 2000.  
therefore the share of B is 2000.

20. If 40% of a number is equal to two-third of another number, what is the ratio of first number to the second number ?

A. 2 : 5. B. 3 : 7. C. 5 : 3. D. 7 : 3.

Solution:

|  |  |  |
| --- | --- | --- |
| Let 40% of A = | 2 | B |
| 3 |

|  |  |  |  |
| --- | --- | --- | --- |
| Then, | 40A | = | 2B |
| 100 | 3 |

|  |  |  |  |
| --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 2A | = | 2B |
| 5 | 3 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | A | = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 2 | x | 5 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 5 |
| B | 3 | 2 | 3 |

https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifA : B = 5 : 3.

21. Ratio of the earnings of A and B is 4 : 7. If the earnings of A increase by 50% and those of B decrease by 25%, the new ratio of their earnings becomes 8 : 7. What are A’s earnings ? :

A. Rs. 21,000. B. Rs. 26,000. C. Rs. 28,000. D. Rs. None of these.

Solution: Ratio of earning of A and B =4:7

Let the earning of A and B is 400x and 700x

Earning of A after increasing 50%=400x+200x=600x

Earning Of B after decreasing 25%

=700x+700x\*25/100=700x+175x=875x

New ratio of their earning

=600x/875=8/7

100x=8\*875/175=8\*5=40

So A’s actual earning

=400x=4\*40=160 unit

2

22. In a mixture of 60 litres, the ratio of milk and water is 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is ::

A. 20 litres. B. 30 litres. C. 40 litres. D. 60 litres.

Solution: Quantity of Milk = 60\*(2/3) = 40 liters  
Quantity of water = 60-40 = 20 liters  
  
As per question we need to add water to get quantity 2:1  
  
=> 40/(20+x) = 1/2  
=> 20 + x = 80  
=> x = 60 liters

23. The third proportional to (x2 − y2) and (x − y) is :

A. (x + y). B. (x − y). C. (x + y)/(x − y). D. (x − y)/(x + y).

Solution: et the third proportional to (x² - y²) and (x - y) be P.

Therefore, (x² - y²), (x - y) and P are in proportion.

=> (x² - y²) : (x - y) = (x - y) : P

=> (x² - y²)/(x - y) = (x - y)/P

=> P = (x - y)²/(x² - y²)

=> P = (x - y)(x - y)/(x + y)(x - y)

=> P = (x - y)/(x + y).

Therefore, the third proportional to (x² - y²) and (x - y) is (x - y)/(x + y).

24. The ratio of third proportional to 12 and 30 and the mean proportional between 9 and 25 is : A. 2 : 1. B. 5 : 1. C. 7 : 15. D. 9 : 14.

Solution: Let the third proportional to 12 and 30 be x.  
  
Then, 12 : 30 :: 30 : x <=> 12x = 30 x 30 <=> x = (30\*30\12)  
= 75.  
Third proportional to 12 and 30 = 75.  
  
Mean proportional between 9 and 25 = sqrt(9)\*sqrt(25) = 15.  
  
Required ratio = 75 : 15 = 5 : 1.

25. The prices of a scooter and a T.V. are in the ratio 7 : 5. If the scooter costs Rs. 8000 more than a T.V. set, then the price of a T.V. set is :

A. Rs. 20,000. B. Rs. 24,000. C. Rs. 28,000. D. Rs. 32,000.

Solution: If we Assume Scooter cost + TV set Cost= 'x'

Scooter cost =7x/12

TV set cost =5x/12

As per the problem,

Scooter cost = 8000 + Tv set cost,

7x/12 = 8000 + 5x/12,

7x/12-5x/12= 8000

2x/12 = 8000

x/6 = 8000

x= 48000

scooter cost = 48000\*7/12 = 28000.

Tv set cost = 48000\*5/12 = 20000.

26. An amount os Rs. 2430 is divided among A, B and C such that if their shares be reduced by Rs. 5, Rs. 10 and Rs. 15 respectively, the remainders shall be in the ratio of 3 : 4 : 5.Then, B’s share was :

A. Rs. 605. B. Rs. 790. C. Rs. 800. D. Rs. 810.

Solution: ∵ Remainder = Rs. [ 2430 - (5 + 10 + 15)] = Rs. 2400  
∴ B's share = Rs. [ (2400 x 4/12) + 10 ] = Rs. 810

27. The ratio between two numbers is 3 : 4 and their L.C.M. is 180. The first number is :

A. 60. B. 45. C. 20. D. 15.

Solution: let the number be 3x and 4x

product of two numbers =lcm x hcf

3x \* 4x=180 x hcf

(here hcf =x

because hcf is the common between two numbers

and I the number are 3x and 4x )

3x\*4x=180\*x

12 x^2/x=180

12x=180

x=15

first number =3\*x=3\*15=45

28. An alloy is to contain copper and zinc in the ratio 9 : 4. The zinc required to be melted with 24 kg of copper is:

A. 102 kg. B. 101 kg. C. 92 kg. D. 9 kg.

Solution: Copper : Zinc = 9 : 4

Copper melted = 24 kg

Zinc melted = x kg

9 / 4 = 24 / x

9x = 24\*4

9x = 96

x = 96 / 9

= 32 / 3

= 10.66666....

≈ 11 kg

3 3 3

29. 15 litres of mixture contains 20% alcohol and the rest water. If 3 litres of water be mixed with it, the percentage of alcohol in the mixture would be :

A. 15%. B. 162%. C. 17%. D. 181%.

Solution: Water become = 12 + 3 = 15 liter.  
Toatl mixture = 15 + 3 = 18 liter.  
Now, % of Alcohal into new mixture = (3\*100/18) = 16.66%.

3 2

30. 20 litres of a mixture contains milk and water in the ratio 5 : 3. If 4 litres of this mixture be replaced by 4 litres of milk, the ratio of milk to water in new mixture would be :

A. 2 : 1. B. 7 : 3. C. 8 : 3. D. 4 : 3.

Solution: 20 litres of mixture contains 5/8 x 20 = 12.50 litres of milk and 7.5 L water.

Removing 4 litre mixture means removing :

milk 4 x 5/8 = 2.5 L & 1.5 L water.

New milk content after adding 4 L pure milk = 12.5 - 2.5 + 4 = 14 L

Milk:water is 14:6 or 7:3

31. The age of A and B are in the ratio 3 : 1.Fifteen years hence, the ratio will be 2 : 1. Their present ages are :

A. 30 years, 10 years. B. 45 years, 15 years. C. 21 years, 7 years. D. 60 years, 20 years.

Solution: The ratio of ages ,  
  
=> 3:1  
  
Let the age of raju be 3x .  
  
And age of biju be x.  
  
From the question,  
  
https://tex.z-dn.net/?f=%3D%20%3E%20%5C%3A%20%5Cfrac%7B3x%20%2B%2015%7D%7B%20x%20%2B%2015%7D%20%3D%20%5Cfrac%7B2%7D%7B1%7D  
  
https://tex.z-dn.net/?f=%3D%20%3E%20%5C%3A%202x%20%2B%2030%20%3D%203x%20%2B%2015  
  
=> x=15.  
  
So, The age of raju is 3×15 =45years.  
  
The age of biju=> 15.

32. The speeds of three cars in the ratio 5 : 4 :6. The ratio between the time taken by them to travel the same distance is :

A. 5 : 4 : 6. B. 6 : 4 : 5. C. 10 : 12 : 15. D. 12 : 15 : 10.

Solution: Given, the ratio of the three car’s speed will be 5 : 4 : 6

We know,

https://tex.z-dn.net/?f=%5Ctext%20%7B%20Speed%20%7D%20%3D%20%5Cfrac%20%7B%20%5Ctext%20%7Bdistance%7D%20%7D%20%7B%20%5Ctext%20%7Btime%7D%20%7D

Since, the distance is same for the given cars,

Taking distance = D,

https://tex.z-dn.net/?f=%5Ctext%20%7B%20Speed%20%7D%20%3D%20%5Cfrac%20%7B%20%5Ctext%20%7BD%7D%20%7D%20%7B%20%5Ctext%20%7Btime%7D%20%7D

Let the time taken by the 3 cars be termed as https://tex.z-dn.net/?f=t_1%2C%20t_2%2C%20t_3.

Given,

Ratio of Speeds = 5:4:6

https://tex.z-dn.net/?f=Speed_1%3ASpeed_2%3ASpeed_3%3D5%3A4%3A6

https://tex.z-dn.net/?f=t%20_%20%7B%201%20%7D%20%3A%20t%20_%20%7B%202%20%7D%20%3A%20t%20_%20%7B%203%20%7D%20%3D%20%5Cfrac%20%7B%201%20%7D%20%7B%205%20%7D%20%3A%20%5Cfrac%20%7B%201%20%7D%20%7B%204%20%7D%20%3A%20%5Cfrac%20%7B%201%20%7D%20%7B%206%20%7D

LCM of 5, 4 and 6 will be 60.

Hence, the ratio of the time taken by the cars will be 12: 15: 10

33. The sides of a triangle are in the ratio 1 1 1and its perimeter is 104 cm. The length of the 2: :

longest side is :

3 4

52 cm. B. 48 cm. C. 32 cm. D. 26 cm.

Solution: he sides be x/2,x/3,x/4

the sum of sides i.e. perimeter is 104

then,  x/2 + x/3 + x/4 = 104

13x/12 = 104

x = 104 \* 12 /13

x=8\*13

x=96

the longest side is  x/2

96/2

48.

3

34. In a school, 19% of the boys are same in number as 1th of the girls. What is the ratio of boys to

4

girls in that school ?

3 : 2. B. 5 : 2. C. 2 : 1. D. 4 : 3.

Solution: Let number of boys = B  
  
and number of girls = G  
  
Then, 10% of B = 14 of G14 of G  
  
= B10=G4=BGB10=G4=BG  
  
= =104=52=B:G=104=52=B:G = 5 : 2.

35. x varies inversely as square of y. Given that y=2 for x=1. The value of x for y=6 will be equal to :

A. 3. B. 9. C. 1. D. 1.

Solution: x∞1y2x∞1y2  
  
(Inversely proportional)  
  
x=ky2x=ky2  
  
(y=2) for (x=1)(y=2) for (x=1) (Given)  
  
Therefore, 1=k(2)2=>1=k41=k(2)2=>1=k4  
  
k = 4  
  
Therefore, For y = 6  
  
x=4(6)2=19

3 9

36. If 10% of x=20% of y, then x : y is equal to :

A. 1 : 2. B. 2 : 1. C. 5 : 1. D. 10 : 1.

Solution: 10% of  x=10\*x/100\*=x/10

20% of y=20\*y/100\*=y/5

Given that

10% of  x=20% of y

x/10=y/5=2y/10

x=2y

x/y=2/1

x:y=2:1

37. Zinc and copper are melted together in the ratio 9 : 11. What is the weight of melted mixture, if 28.8 kg of zinc has been consumed in it ?

A. 58 kg. B. 60 kg. C. 64 kg. D. 70 kg.

Solution: For  9 kg zinc, mixture melted = (9 + 11) kg

For 28.8 kg zinc , mixture  melted = (209×28.8)(209×28.8)g = 64 kg.

38. The least whole number which when subtracted from both the items of the ratio 6 : 7 gives a ratio less than 16 : 21 is :

A. 2. B. 3. C. 4. D. 6.

Solution: Let the whole number is X.  
Now, according to question,

(6 -X) /(7 -X) < 16/21.

21 \*(6 -X) < 16 \*(7 -X)

126 - 21X < 112 - 16X

126 - 112 < - 16X + 21X

14 < 5X  
5X  > 14

X > 2.8  
So, Least such whol number would be 3.

39. A certain amount was divided among between A and B in the ratio 4 : 3. If B’s share was Rs. 4800, the amount was :

A. Rs. 11,200. B. Rs. 6400. C. Rs. 19,200. D. Rs. 39,200.

Solution: Let A get=₹ 4x

Let B get=₹ 3x

B share=₹4800

Given=₹4x

A/Q

3x=4800

x=4800/3

x=1600

We got x=1600

A=4x=4×1600=₹6400

B=3x=3×1600=₹4800

Total Money=6400+4800

=11200

40. What is the ratio whose terms differ by 40 and the measure of which 2?

7

16 : 56. B. 14 : 56. C. 15 : 56. D. 16 : 72.

Solution: let's say one term is x and the other is y.  
x/y = 2/7 therefore x = (2/7)y  
from the ratio above we know y must be bigger than x as x is proportionate to 2, y is proportionate to 7  
therefore x = y - 40  
we have two terms for x, equating them gives  
(2/7)y = y - 40  
rearranging gives  
(-5/7)y = -40 so y = 56  
therefore x = 16  
Ratio is 16:56

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