**Ratios & Proportions - Practice Questions**

**Part – A**

Q 1 - On the off chance that a:b=2:3 and b:c=5:7, discover a:c.

[A - 10:11](javascript:void(0);)

[B - 10:21](javascript:void(0);)

[C - 21:10](javascript:void(0);)

[D - 11:10](javascript:void(0);)

Q 2 - On the off chance that a:b=2:3 and b:c=5:7, discover a:b:c.

[A - 10:15:21](javascript:void(0);)

[B - 10:21:15](javascript:void(0);)

[C - 15:10:21](javascript:void(0);)

[D - 11:10:21](javascript:void(0);)

Q 3 - On the off chance that 4a = 5b and 8b = 9c, find a:b:c.

[A - 45:36:32](javascript:void(0);)

[B - 45:32:36](javascript:void(0);)

[C - 32:45:36](javascript:void(0);)

[D - 32:36:45](javascript:void(0);)

Q 4 - On the off chance that a/8 = b/9 = c/12, find a:b:c.

[A - 8:12:9](javascript:void(0);)

[B - 8:9:12](javascript:void(0);)

[C - 12:8:12](javascript:void(0);)

[D - 9:8:12](javascript:void(0);)

Q 5 - In the event that a:b =1:3, b:c = 5:7 and c:d = 9:8 ,find a:b:c:d.

[A - 45:15:63:56](javascript:void(0);)

[B - 63:45:15:56](javascript:void(0);)

[C - 15:45:63:56](javascript:void(0);)

[D - 15:63:45:56](javascript:void(0);)

Q 6 - In the event that (5x+3y): (5x-3y) =3:1, then x:y=?

[A - 6:5](javascript:void(0);)

[B - 7:8](javascript:void(0);)

[C - 8:9](javascript:void(0);)

[D - 9:11](javascript:void(0);)

Q 7 - In the event that x:y= 5:3 ,then ( 8x-5y) : (8x+5y) = ?

[A - 6:11](javascript:void(0);)

[B - 7:11](javascript:void(0);)

[C - 8:11](javascript:void(0);)

[D - 5:11](javascript:void(0);)

Q 8 - locate the fourth corresponding to 4,5 and 12.

[A - 18](javascript:void(0);)

[B - 16](javascript:void(0);)

[C - 14](javascript:void(0);)

[D - 15](javascript:void(0);)

Q 9 - locate the third proportinal corresponding to 9 and 12.

[A - 18](javascript:void(0);)

[B - 16](javascript:void(0);)

[C - 14](javascript:void(0);)

[D - 15](javascript:void(0);)

Q 10 - Locate the mean relative somewhere around 49 and 64.

[A - 58](javascript:void(0);)

[B - 56](javascript:void(0);)

[C - 54](javascript:void(0);)

[D - 55](javascript:void(0);)

Q 11 - An aggregate of rs. 391 has been divided between a,b,c in the proportion 1/2 :2/3:3/4 , discover the offer of each.

[A - 102,136,153](javascript:void(0);)

[B - 112,114,123](javascript:void(0);)

[C - 114,117,129](javascript:void(0);)

[D - 122,134,123](javascript:void(0);)

Q 12 - A sack contain one rupee, fifty paisa and 25 paisa in the proportion of 8:9:11, if the aggregate cash of the pack is 122, discover the no. of coins of every sorts.

[A - 8,64,72,88](javascript:void(0);)

[B - 16,32,72,88](javascript:void(0);)

[C - 8,64,128,88](javascript:void(0);)

[D - 32,64,128,88](javascript:void(0);)

Q 13 - A blend contains liquor and water in the proportion 4:3, if 7 liter of water is added to the blend, the proportion of liquor and water gets to be 3:4. Discover the amount of liquor in the blend.

[A - 12 liters](javascript:void(0);)

[B - 13 liters](javascript:void(0);)

[C - 14 liters](javascript:void(0);)

[D - 15 liters](javascript:void(0);)

Q 14 - In a collection, the no. of understudy considering expressions, trade and science in the proportion of 4:7:9. On the off chance that the no. of understudy in expressions of the human experience, business and science be expanded by 30%, 20% and 40%. What will be the new proportion?

[A - 26:42:63](javascript:void(0);)

[B - 36:42:63](javascript:void(0);)

[C - 46:42:63](javascript:void(0);)

[D - 56:42:63](javascript:void(0);)

Q 15 - The expense of assembling an auto is comprised of three items: cost of material, work and overheads. In a year, the expense of these things were in the proportion 4:3:2.Next year, the expense of material rose by 10%,cost of work expanded by 8% however the overheads lessened by 5%.Find the increment for every penny in the auto's cost.

[A - 44/9 %](javascript:void(0);)

[B - 54/9 %](javascript:void(0);)

[C - 64/9 %](javascript:void(0);)

[D - 74/9 %](javascript:void(0);)

Q 16 - The proportion of no. of young men to that of the young ladies in a school is 3:2 .if 20% of young men and 25% of young ladies are grant holders, discover the % of the individuals who are not grant holders.

[A - 64 %](javascript:void(0);)

[B - 78 %](javascript:void(0);)

[C - 84 %](javascript:void(0);)

[D - 76 %](javascript:void(0);)

Q 17 - An and B together have rs.1210 with them. In the event that 4/15 of A sum is equivalent to 2/5 of B sum, what amount of sum does B have?

[A - 484](javascript:void(0);)

[B - 284](javascript:void(0);)

[C - 384](javascript:void(0);)

[D - 584](javascript:void(0);)

Q 18 - In the event that (x+y): (x-y)= 4:1,then (x2+y2): (x2-y2)=?

[A - 17/8](javascript:void(0);)

[B - 19/8](javascript:void(0);)

[C - 15/8](javascript:void(0);)

[D - 13/8](javascript:void(0);)

Q 19 - In the event that (4x2-3y2) :( 2x2+5y2)= 12:19 , then x:y=?

[A - 2:1](javascript:void(0);)

[B - 3:2](javascript:void(0);)

[C - 4:1](javascript:void(0);)

[D - 5:2](javascript:void(0);)

Q 20 - if x2+y2 = 4xy,then x:y = ?

[A - 2:1](javascript:void(0);)

[B - 3:2](javascript:void(0);)

[C - 4:1](javascript:void(0);)

[D - 5:2](javascript:void(0);)

**Part – B**

Q 1 - Rs.11256 is divided among X,Yand Z so that X may receive 1/3 as much as Y and Z together receive Y receives 1/5 of what X and Z together receive. The share of X is more than that of Y by:

A - 938

[B - 586](javascript:void(0);)

[C - 1153](javascript:void(0);)

[D - 1236](javascript:void(0);)

Q 2 - If 420 Mangoes was distributed among three children's in the ratio 1/3:2/3:3/4 , how many bananas did the first child get?

[A - 75](javascript:void(0);)

B - 80

[C - 90](javascript:void(0);)

[D - 66](javascript:void(0);)

Q 3 - If a:b =2:3 and b:c =4:5 , then c:a =?

[A - 15:8](javascript:void(0);)

[B - 6:5](javascript:void(0);)

[C - 8:5](javascript:void(0);)

[D - 8:15](javascript:void(0);)

Q 4 - If 7:x ::17.5 :22.5 , then x=?

[A - 5.5](javascript:void(0);)

[B - 7.5](javascript:void(0);)

[C - 6](javascript:void(0);)

[D - 9](javascript:void(0);)

Q 5 - On the off chance that a:b =c:d =e: f =1:2 , then (3a+5c+7e) : (3b +5d +7f ) = ?

[A - 1:2](javascript:void(0);)

[B - 1:4](javascript:void(0);)

[C - 2:1](javascript:void(0);)

[D - 8:7](javascript:void(0);)

Q 6 - If 32 understudies In a class are females and the proportion of females to guys understudy is 16:9 , then what % of the class is females ?

[A - 32%](javascript:void(0);)

[B - 36%](javascript:void(0);)

[C - 56.25%](javascript:void(0);)

[D - 64%](javascript:void(0);)

Q 7 - Two entire numbers whose entirety is 64, cannot be in the proportion

[A - 5:3](javascript:void(0);)

[B - 7:1](javascript:void(0);)

[C - 3:4](javascript:void(0);)

[D - 9:7](javascript:void(0);)

Q 8 - Three numbers A , B and C are in the proportion 1:2 :3. Their normal is 600. In the event that An is expanded by 10% and B is diminished by 20 %, then to get the normal expanded by 5%, C will be expanded by:

[A - 90](javascript:void(0);)

[B - 100](javascript:void(0);)

[C - 150](javascript:void(0);)

[D - 180](javascript:void(0);)

Q 9 - The proportion of salary of An and B is 5:3 and that of their use is 9:5. On the off chance that they spare Rs. 2600 and Rs. 1800, then their livelihoods are:

[A - 9000, 5400](javascript:void(0);)

[B - 10000, 6000](javascript:void(0);)

[C - 6000, 3600](javascript:void(0);)

[D - 8000, 4800](javascript:void(0);)

Q 10 - Three equivalent glasses are loaded with blend of soul and water. The proportion of sprit and water is given underneath:- first glass = 3:4 , second glass =4:5 ,third glass =5:6 The substance of three glasses are purged into a solitary vessel. What is the proportion of spirit to water in the blend now?

[A - 820:1149](javascript:void(0);)

[B - 920:1159](javascript:void(0);)

[C - 1010 :1122](javascript:void(0);)

[D - 1120 :1134](javascript:void(0);)

**Part – A answers**

**1Answer - B**

**Explanation**

We have a/b = 2/3 and b/c = 5/7

So a/c = (a/b\*b/c) = (2/3\*5/7) = 10/21

So its demonstrate that a:c = 10:21

**2Answer - A**

**Explanation**

Here a/b = 2/3 and b/c = 5:7 = 3/5\*5:3/5\*7 = 3:21/5.

So a:b=2:3 and b:c=3:21/5

So a:b:c = 2:3:21/5 = 10:15:21.

**3Answer - A**

**Explanation**

4a = 5b

=> a/b=5/4

and 8b = 9c

=> b/c=9/8

So a:b = 5:4 and b:c = 9:8 = (4/9)(9):(4/9)(8) = 4:32/9

=> a:b:c = 5:4:32/9 = 45:36:32.

Hence,a:b:c = 45:36:32.

**4Answer - B**

**Explanation**

Let a/8 = b/9 =c/12 =k.

Then a=8k ,b=9k and c=12k.

So a:b:c = 8k:9k:12k =8:9:12.

Hence,a:b:c = 8:9:12.

**5Answer - C**

**Explanation**

We have a:b = 1:3, b:c = 5:7 and c:d = 9:8

=> a:b = 5:15, b:c = 15:21, c:d =(21/9)\*9 : (21/9)\*8

=> a:b = 5:15, b:c = 15:21, c:d = 21:56/3

=> a:b:c:d =5:15:21:56/3 = 15:45:63:56

Consequently, a:b:c:d = 15:45:63:56

**6Answer - A**

**Explanation**

Here (5x+3y)/(5x-3y) = 3/1

=> 5x+3y = 15x-9y

=> 10x = 12y

=> x/y = 12/10 = 6/5

So x:y =6:5

**7Answer - D**

**Explanation**

Given x/y = 5/3

Dividing numerator and denominator by y.

(8x-5y)/(8x+5y) = {8(x/y) - 5}/{8(x/y) + 5}

= {8\*(5/3)-5}/{8\*(5/3)+5}

= (40-15)/(40+15)

= 25/55

= 5/11

So (8x-5y):(8x+5y)= 5:11

**8Answer - D**

**Explanation**

Let 4:5::12:x.

=> 4\*x = (5\*12)

=> x = 5\*12/4

= 15

So the fourth relative to 4,5,12 is 15.

**9Answer - B**

**Explanation**

Third relative to 9 and 12 is equivalent to fourth corresponding to 9,12 and 12.

Give it a chance to be x at that point

=> 9:12::12:x

=> 9x = 12\*12

=> x = 12\*12/9

=16

So the third relative is 16.

**10Answer - B**

**Explanation**

Mean relative somewhere around 49 and 64 is 49\*64 = (7\*8) = 56.

**11Answer - A**

**Explanation**

We have a:b:c=1/2:2/3:3/4= 6:8:9.

A share = (391\*6/23) = 102 rs.

B offer = (391\*8/23) = 136 rs.

C offer = (391\*9/23) = 153 rs.

**12Answer - A**

**Explanation**

Let the quantity of one rupee, 50-p and 25-p coins be 8x, 9x and 11x individually.

At that point, 8x + 9x/2 + 11x/4 =122

=> 32x + 18x + 11x = 488

=> 61x =488

=> x = 8

No. of one rupee coins = 8\*8= 64

No. of 50-p coins =9\*8= 72

No. of 25-p coins =11\*8 =88

**13Answer - B**

**Explanation**

Let the amount of liquor and water be 4x liter and 3x liter separately.

At that point , 4x/3x + 7 = 3/4

=> 16x = 9x+21

=> 7x = 21

so estimation of x is 3

Amount of liquor in the blend is = 4\*3 =12 liters.

**14Answer - A**

**Explanation**

Let the no. of understudy in expressions, business and science be 4x,7x and 9x individually.

Presently they are 130% of 4x, 120 % of 7x and 140 % of 9x.

Required proportion = (130/100\*4x): (120/100\*7x) (140/100\*9x)

=26x/5:42x/5:63x/5

=26:42:63.

**15Answer - A**

**Explanation**

Let the expense of material, work and over head be rs. 4x, 3x and 2x separately.

At that point aggregate expense =9x rs .

New cost= {(110% of 4x) + (108% of 3x) +(90% of 2x)}

={(110/100\*4x)+(108/100\*3x)+(90/100\*2x)}

= (22x/5 + 81x/25 + 9x/5)

= (110x+81x+45x)/25= 236x/25

Increment = {(236x/25)-9x} = 11x/25

Increase%= (11x/25)\*(1/9x)\*100 %

= 44/9 %

**16Answer - B**

**Explanation**

Let the no. of young men be 3x and the no. of young ladies 2x.

Aggregate no. = 5x

No. of the individuals who are not grant holders

= (80% of 3x)+(75% of 2x)

= (80/100 \* 3x) + ( 75/100 \* 2x)

= (12x/5 + 3x/2)

= 39x/10

Required % = (39x/10)\*(1/5x)\*100 %

= 78%

**17Answer - A**

**Explanation**

Let (4/15)a = (2/5)b = x

then a = 15x/4 and b = 5x/2

So. 15x/4 + 5x/2 =1210

=> 15x + 10x = 4840

=> 25x = 4840

=> x=193.6

So. B = (5/2\*193.6) = 484

Henceforth B has Rs. 484.

**18Answer - A**

**Explanation**

(x + y)/(x - y)= 4/1

=> x + y = 4x-4y

=> 3x = 5y

=> x/y = 5/3

Now (x2+y2)/ (x2-y2)= {(x/y)2+1}/ { (x/y )2-1 }

= {(5/3)2+1} / {(5/2)2 -1}

= 34/16 = 17/8

**19Answer - B**

**Explanation**

(4x2 -3y2)/ (2x2 +5y2) = 12/19

=>76x2-57y2 = 24x2+60y2

=> 52x2 = 117y2

=> x2/y2 = 117/52 = 9/4

=> (x/y)2=(3/2)2

=> x/y = 3/2.

=> x:y = 3:2

**20Answer - A**