| | | |
|---|---|---|
| Question | If the ratio P: Q=2:3, and Q:R=3: 4 then the ratio P+ Q : Q + R is: | |
| Type | multiple_choice | |
| Option | 4:5 | incorrect |
| Option | 5:11 | incorrect |
| Option | 5:6 | incorrect |
| Option | 5:7 | correct |
| Solution | Given:<br>The ratio P:Q=2:3,<br>and Q:R=3:4<br><br>So,P:Q:R=2:3:4<br>Now,<br>P+Q:Q+R=(2+3):(3+4)<br>=5:7 ANS | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | A sum or money Is to be distributed among A, B, C and D in the ratio of 5: 2.4:3. If A gets 1000 more than D, what is C's share? | |
| Type | multiple_choice | |
| Option | 33,40 | incorrect |
| Option | 2000 | correct |
| Option | 2,543 | incorrect |
| Option | 2,945 | incorrect |

| | | |
|---|---|---|
| Solution | Let the shares of A, B, C, and D be Rs. 5x, Rs. 2x, Rs. 4x and Rs. 3x respectively.<br>According to the question,<br>5x - 3x =1000<br>2x = 1000<br>x =500<br>C's share = 4 x 500 = 2000 ANS | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | What is the third proportional to 9 and 36? | |
| Type | multiple_choice | |
| Option | 165 | incorrect |
| Option | 135 | incorrect |
| Option | 125 | incorrect |
| Option | 144 | correct |
| Solution | Let the third proportion be P.<br>So, the proportion becomes=>9:36:36:P<br>A/Q<br>9 x P=36 x 36<br>P =1296/9<br>P=144 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | Two numbers are in the ratio 3 : 5. If 9 is subtracted from each, the nubers So obtained are in the ratio 12 : 23. If 3 is added to the smaller number and 7 is subtracted from the other number, there they will be in the ratio: | |
| Type | multiple_choice | |
| Option | 3:5 | correct |
| Option | 4:5 | incorrect |
| Option | 3:7 | incorrect |

| | | |
|---|---|---|
| Option | 6:5 | incorrect |
| Solution | Let the first and second number be 3x and 5x respectively<br>According to the question,<br>(3x - 9)/(5x - 9) = 12/23<br>(x - 3)/(5x - 9) = 4/23<br>23x - 69 = 20x - 36<br>3x=33<br>x=11<br>so, first number = 3x = 33<br>Second number = 5x = 55<br>3 is added to the smaller number and 7 is subtracted from the other number<br>Required ratio=(33+3):(55-7)=36:48=3:4 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | In a certain examination, the number of passes and failures are in the ratio 3: 2. If 12 more students had passed, then the ratio of passes to failures would have been 21: 10. The number of<br>students who have passed the examination is ? | |
| Type | multiple_choice | |
| Option | 2000 | inorrect |
| Option | 1750 | incorrect |
| Option | 2040 | correct |
| Option | 2090 | incorrect |
| Solution | Let the number of passes be 3x and that of failures be 2x in the exam.<br>A/Q 3x+12/2x =21/10<br>30x+120= 42x<br>12x=120<br>x=10<br>Number of students who have passed the exam = 3x=3*10=30 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | A sum of 4107 is divided between A, B, C and D such that the ratio of shares of A and Bis 3:4, that of Band Cis 2: 1and that of C and D is 3:5. The share of B is: | |
| Type | multiple_choice | |
| Option | 1466 | incorrect |
| Option | 1400 | incorrect |
| Option | 1200 | incorrect |
| Option | 1332 | correct |
| Solution | GIVEN:<br>Sum = 4107<br>A and B=3:4<br>B and C=2:1<br>C and D=3:5<br>CALCULATION:<br>A:B:C=3:4:2<br>A:B:C:D=9:12:6:10<br>According to question<br>9x + 12x + 6x + 10x = 4107<br>37x = 4107<br>x=111<br>Share of B=12 x 111 =1332 | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If X/3=Y/5=Z/9, then what is the ratio of X:Y:Z? | |
| Type | multiple_choice | |
| Option | 3:5:9 | correct |
| Option | 3:7:9 | incorrect |
| Option | 4:5:9 | incorrect |
| Option | 3:5:7 | incorrect |

| | | |
|---|---|---|
| Solution | Let X/3=Y/5=Z/9=K<br>Then x=3k<br>y=5k<br>z=9k<br>A/Q<br>X:Y:Z=3k:5k:9k<br>X:Y:Z=3:5:9 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | A bag has Rs. 840 in the denomination of Rs. 1, Rs. 2 and Rs. 5 coins. Rs. 1 , Rs. 2 and Rs. 5 coins are in the ratio of 8 : 1: 5. How many coins of Rs. 5 are in the bag? | |
| Type | multiple_choice | |
| Option | 125 | incorrect |
| Option | 150 | incorrect |
| Option | 120 | correct |
| Option | 140 | incorrect |
| Solution | Let the 1 Rs, 2 Rs. and 5 Rs. coin be = 8x, x and 5x respectively<br>Total rupees = Rs. 840<br>A/Q => 8x*1 + x*2 + 5x*5=Rs.840<br>x=840/35=24<br>Number of 5 Rs coins = 24 x 5 =120 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If s:u:v:w = 2:9:6:7and s+u+v+w = 864, then what is the value of S+u+w? | |
| Type | multiple_choice | |
| Option | 648 | correct |
| Option | 630 | incorrect |
| Option | 620 | incorrect |
| Option | 650 | incorrect |

| | | |
|---|---|---|
| Solution | Let s =2x , u=9x, v=6x and w= 7x<br>Now, 2x+ 9x + 6x + 7x = 864<br>24x = 864<br>x=36<br>A/Q<br>s+u+w= 8x<br>s+u+w=18x36 (x=36)<br>s+u+w=648 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If A:B:C = 4:5:6, then what is the ratio of (1/A) : (1/B): (1/C)? | |
| Type | multiple_choice | |
| Option | 15:7:9 | incorrect |
| Option | 24:17:20 | incorrect |
| Option | 16:8:9 | incorrect |
| Option | 15:12:10 | correct |
| Solution | LCM of (4,5,6)=60<br>A/Q<br>(1/A): (1B): (1/C) = {60 4}: {60/5} : (60 /6}. To get simplest form..<br>(1/A): (1/B): (1/C)=15:12:10 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If the numerator of a fraction is decreased by 15% and its denominator is diminished by 10%, the value of the fraction is 2 / 9. Find the original fraction. | |
| Type | multiple_choice | |
| Option | 4 / 17 | correct |
| Option | 5 / 17 | incorrect |
| Option | 4 / 25 | incorrect |
| Option | 8 / 17 | incorrect |

| | | |
|---|---|---|
| Solution | Let the fraction be N / D<br>A/Q => (N – 15 % of N) / (D – 10 % of D) = 2 / 9<br>=> 0.85 N / 0.9 D = 2 / 9<br>=> 85 N / 90 D = 2 / 9<br>=> N / D = 4 / 17<br>Therefore, the original fraction is 4 / 17 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | The price of two articles are in the ratio of 3 : 2 respectively. The price of first article is increased by 40% and the price of second article is decreased by x%. If the new ratio of the price of the two articles is 7 : 3 respectively, then what is the value of x? | |
| Type | multiple_choice | |
| Option | 30 | incorrect |
| Option | 20 | incorrect |
| Option | 15 | incorrect |
| Option | 10 | correct |
| Solution | Let the cost price of two articles is = 300y & 200y<br>When the price of first article is increased by 40%<br>price of first article = 300y * 1.4 = 420y<br>When the price of second article is decreased by x%<br>Price of second article = 200y*(1 - (x/100))<br>A/Q<br>{(420y)/ 200y(1-x/100)} = 7/3<br>180/200=1-x/100<br>x=10 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If the base radius of 2 cylinders are in the ratio 3:4 and their heights are in the ratio of 4:9, then the ratio of their volumes is: | |
| Type | multiple_choice | |
| Option | 1/4 | correct |
| Option | 4/5 | incorrect |

| | | |
|---|---|---|
| Option | 1/2 | incorrect |
| Option | 3/5 | incorrect |
| Solution | We know that,<br>Volume of cylinder = r^2h<br>Hence ratio of their volumes is<br>(r1^2h1)/(r2^2*h) = 3*3*4/4*4*9=1/4 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | The ratio of the number of boys to the number of girls in a school of 640 students is 5:3. If 30 more girls are admitted in the school, then how many more boys should be admitted so that the ratio of boys tothat of the girls, becomes 14:9 | |
| Type | multiple_choice | |
| Option | 18 | incorrect |
| Option | 24 | incorrect |
| Option | 21 | incorrect |
| Option | 20 | correct |
| Solution | Ratio of number of boys to girls is 5:3 =8 units in total<br>8 units = 640<br>1 unit = 80<br>Boys are 5 units = 400<br>Girls are 3 units = 240<br>On adding 30 more girls, Total girls = 270<br>Let x boys be added to make ratio of boys to girls 14:9<br>A/Q<br>400+x/270 = 14/9<br>x=20 Ans | |
| Marks | 1 | 0 |

| | |
|---|---|
| Question | If x is the mean proportional between 12.8 and 64.8 and y is the third proportional to 38.4 and 57.6, then 2x:y is equal to: |
| Type | multiple_choice |

| | | |
|---|---|---|
| Option | 2/3 | correct |
| Option | 3/5 | incorrect |
| Option | 2/9 | incorrect |
| Option | 1/2 | incorrect |
| Solution | Let mean proportional x= Root(12.8 x 64.8)=28.8<br>Third proportional, y= 57.6*57.6/38.4=86.4<br>A/Q<br>2x/y = 2*28.8/86.4 = 2/3 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | The ratio of boys and girls in a group is 7:6. If 4 more boys join the group and 3 girls leave the group, then the ratio of boys to girls becomes 4:3. What is the total number of boys and girls initially in the group? | |
| Type | multiple_choice | |
| Option | 100 | incorrect |
| Option | 114 | incorrect |
| Option | 95 | incorrect |
| Option | 104 | correct |
| Solution | Let boys be 7x and girls be 6x<br>A/Q:<br>7x+4/6x-3=4/3<br>x=8<br>Initially total number of boys and girls = 13x = 13*8=104 | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | A sum of Rs.x was divided between A, B, C, and D in the ratio 1/3:1/5:1/6:1/9 If the difference between the shares of B and D is Rs. 832, then the value of x is: | |
| Type | multiple_choice | |
| Option | 7,592 | correct |

| | | |
|---|---|---|
| Option | 7,500 | incorrect |
| Option | 7,200 | incorrect |
| Option | 7,000 | incorrect |
| Solution | A:B:C:D = 1/3:1/5:1/6:1/9<br>LCM(3,5,6,9)=90<br>So, A:B:C:D = 1/3*90 : 1/5*90:1/6*90 : 1/9*90 = 30:18:15:10 = 73 units (total)<br>B-D = 8 units = 7832 (Given)<br>1 unit =104<br>A/Q total = x =>73 units = 73*104 =Rs. 7,592 | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If a sum of Rs 1,180 is to be divided among A, B and C, such that 2 times A's share, 5 times B's share and 7 times C's share, are equal, then A's shar e is | |
| Type | multiple_choice | |
| Option | 700 | correct |
| Option | 250 | incorrect |
| Option | 600 | incorrect |
| Option | 720 | incorrect |
| Solution | A/Q => 2A=5B=7C<br>Let 2A=5B=7C=K<br>A=K/2, B= K/5 and C=K/7<br>LCM(2,5,7)=70<br>Now, A= 70K/2, B= 70K/5, C=70K/7<br>A:B:C=35:14:10.<br>Total = 59units=Rs 1,180.<br>1unit = Rs. 20<br>A share's = 35 units = 35*20=Rs 700 | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | The sum of the squares of 3 natural numbers is 1029, and they are in the proportion 1:2:4. The difference between the greatest number and the smallest number | |
| Type | multiple_choice | |
| Option | 27 | incorrect |
| Option | 21 | correct |
| Option | 18 | incorrect |
| Option | 22 | incorrect |
| Solution | Three numbers are in ratio = 1k :2k :4k<br>Their square are in ratio = 1k^2 : 4k^2:16k^2<br>Sum of square of numbers = 21k^2 = 1029 => k^2 = 49 =>k= 7<br>Difference between biggest and smallest number = 4k-1k=>3k = 21 Ans | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If 3A = 4B =5C, then A:B:C is equal to: | |
| Type | multiple_choice | |
| Option | 20:17:18 | incorrect |
| Option | 20:15:12 | correct |
| Option | 16:15:12 | incorrect |
| Option | 20:12:15 | incorrect |
| Solution | Given 3A = 4B =5C<br>Let 3A=4B=5C=K<br>A=K/3, B=K/4, C=K/5<br>LCM(3,4,5)=60<br>A=60K/3, B= 60K/4, C= 60K/5<br>A:B:C= 20:15:12 ANS | |
| Marks | 1 | 0 |

| | |
|---|---|
| Question | If a:b =3:2 then (5a + 2b) : (3a + 4b) is equal to: |

| | | |
|---|---|---|
| Type | multiple_choice | |
| Option | 17:18 | incorrect |
| Option | 19:17 | correct |
| Option | 16:15 | incorrect |
| Option | 20:17 | incorrect |
| Solution | Given a:b=3:2<br>Let a=3k and b=2k<br>(5a + 2b) : (3a + 4b) ={5(3k)+2(2k)} : {3(3k)+4(2k)}<br>19k: 17K<br>19:17 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If (5a - 3b) : (4a - 2b) = 2:3, then a:b is equal to: | |
| Type | multiple_choice | |
| Option | 3:7 | incorrect |
| Option | 5:7 | correct |
| Option | 7:5 | incorrect |
| Option | 2:5 | incorrect |
| Solution | Given, (5a-3b) : (4a-2b) =2:3<br>= 3(5a-3b) = 2(4a-2b)<br>= 15a-8a = -4b+9b<br>= 7a=5b<br>a/b=5/7 Ans. | |
| Marks | 1 | 0 |

| | |
|---|---|
| Question | The ratio of the number of boys and girls in a college is 6 : 7. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio? |

| | | |
|---|---|---|
| Type | multiple_choice | |
| Option | 70:73 | incorrect |
| Option | 72:77 | correct |
| Option | 72:79 | incorrect |
| Option | 65:71 | incorrect |
| Solution | Let the number of boys and girls in the college be 600 and 700<br>Boys increased by 20% ==> 120% of 600 = 720<br>Girls increased by 10% => 110% of 700 = 770<br>Required ratio = 720 : 770 = 72 : 77 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If P: Q : R=5: 3: 6, then what will be the ratio of (P/Q) : (Q/R) : (R/P)? | |
| Type | multiple_choice | |
| Option | 50:15:39 | incorrect |
| Option | 50:15:36 | correct |
| Option | 16:15:12 | incorrect |
| Option | 20:12:15 | incorrect |
| Solution | Given P:Q:R=5:3:6<br>Now P/Q=5/3,Q/R=3/6, R/P=6/5<br>LCM(3,6,5)=30<br>P/Q:Q/R:R/P=(5/3:3/6:6/5)*30=50:15:36 Ans. | |
| Marks | 1 | 0 |

| | | |
|---|---|---|
| Question | If a:b=b:c, then the ratio a^4: b^4 is equal to ? | |
| Type | multiple_choice | |
| Option | a^2:b | incorrect |
| Option | a^2:c^2 | correct |

| | | |
|---|---|---|
| Option | a^2:bc^2 | incorrect |
| Option | a^2c:b^2 | incorrect |
| Solution | Given a/b=b/c => b^2=ac<br>A/Q a^4:b^4 => a^4:(ac)^2. (b^2=ac)<br>a^4:a^2c^2<br>a^2:c^2 ans | |
| Marks | 1 | 0 |