

SIMPLE EQUATIONS

1. 5 bags and 7 books together cost Rs. 2350. While 4 books and 10 bags cost Rs. 2200, find the cost of each bag?
a) 40 b) 80 c) 110 d) 120
2. Four added to half of one-third of one-sixth of a number is equal to one-twelfth of the number. What is the number?
a) 48 b) 36 c) 72 d) 54
3. A man's age 20 years hence would be thrice his age 20 years ago. Find his present age?
a) 20 b) 40 c) 60 d) 30
4. A man is 5 times as old as his son. In 10 years he will be 4 times as old as his son. Find the son's present age?
a) 30 b) 40 c) 60 d) 150
5. The age of the father 10 years ago was thrice the age of his son. 10 years hence the father's age will be twice that of his son. Find the present age of the father?
a) 60 b) 70 c) 50 d) 80
6. A tells B, "when I was half of your present age you were $\frac{1}{4}$ th of my present age." If A's present age is 36 what is the B's present age?
a) 18 b) 9 c) 30 d) 27
7. A tells B, "when I was $\frac{1}{6}$ of your present age you were $\frac{1}{7}$ th of my present age." Find the ratio of their present ages:
a) 49:48 b) 31:29 c) 30:37 d) 8:9
8. Radha tells Seeta, "I am twice as old as you were when I was as old as you are." Sum of their present ages is 91, find Radha's present age?
a) 26 b) 42 c) 52 d) 36
9. In the year 2000, age of A was $\frac{1}{99}$ of his year of birth. What will be his age in 2008?
a) 18 b) 20 c) 28 d) 30
10. Find the number of integer solutions of $x+y = 18$, and $x-y = 7$?
a) 2 b) 1 c) 0 d) ∞
11. Find the value of k if the equations $4x + 5y = 32$ and $12x + 15y = 2k$ are not inconsistent?
a) 18 b) 24 c) 36 d) 48
12. The sum of the digits of a 2 digit no. is 9. If the digits are reversed, then the no formed exceeds the original number by 27. Find the number?
a) 63 b) 72 c) 36 d) 27
13. The sum of the digits of a 2 digit no. is 13. If the no is halved, the sum of the digits of the resultant no is 11. How many such nos exist?
a) 1 b) 2 c) 3 d) 4
14. The sum of the digits of a 2 digit no is 11. If the no is halved the sum of the digits of the resultant no is 10. How many such nos exist?
a) 3 b) 4 c) 5 d) 6
15. When you reverse the digits of the no 13, the no increases by 18. How many other 2 digit nos satisfy this condition?
a) 7 b) 5 c) 6 d) 8
16. When the digits of no 41 are interchanged, it decreased by 27. How many other 2 digit nos satisfy this condition?
a) 6 b) 5 c) 7 d) 8
17. $4p + 6E + 5S = 43$; $6P + 9E + 7S = 63$, Then $S =$
a) 3 b) 4 c) 5 d) 6
18. $1P + 2E + 3S = 17$; $3P + 2E + 1S = 19$; $1P + 1E + 1S =$
a) 6 b) 7 c) 8 d) 9
19. $5P + 8E + 11S = 71$; $3P + 5E + 7S = 44$, Then $1P + 1E + 1S =$
a) 10 b) 11 c) 12 d) 13
20. $1M + 5A + 7B = 84$; $1M + 7A + 10B = 114$; Then $= 9M + 23A + 30B =$
a) 400 b) 416 c) 426 d) 436

21. In a 4 digit no abcd with distinct digits $b+c = a+d$, $b+d = 5(a+c)$, $a+b+c+d = 18$, what is the sum of all the possible values of b?
a) 20 b) 22 c) 24 d) 25
22. There is tank. It is filled up $\frac{1}{4}$ th. On adding 1200ltrs of water it becomes $\frac{1}{3}$ rd full. Find the capacity of the tank?
a) 12000Lts b) 14400Lts c) 15600Lts d) 17800Lts
23. In a tank $\frac{1}{5}$ th is filled up. On adding 'x' ltrs of water the tank is $\frac{1}{4}$ th filled. On adding another 120 ltrs the tank will be full, then 'x' is -
a) 6 b) 8 c) 10 d) 12
24. A takes 5 hours more than B to cover a distance of 500 Km. If instead A doubles his speed he would reach the destination $7\frac{1}{2}$ hours before B. Find A's speed?
a) 40 kmph b) 50 kmph c) 20 kmph d) 25 kmph
25. A takes 1 hour less than B to cover a distance of 750 Km. If A halved his speed, he would take 4 hours more than B to cover the same distance. Find A's speed?
a) 75 kmph b) 80 kmph c) 100 kmph d) 150 kmph
26. Find the no of solutions of $P+2Q = 80$, $P, Q \in \mathbb{Z}^+$, $P \geq Q$?
a) 40 b) 30 c) 26 d) 22
27. Find the no of non negative integral solutions of $x+10y+40z = 87$?
a) 2 b) 5 c) 10 d) 15
28. The sum of 2 numbers is 5 and the product of the two is 14. What is the sum of the squares?
a) 3 b) -3 c) -13 d) None of these
29. There are some 2rs and 5 rs coins in a bag. If the number of 5 rs coins is tripled the amount in the bag is increased by 25%. Which of the following can be the number of 5 rs coins in the bag?
a) 13 b) 20 c) 18 d) 32
30. A, B and C each had some amount of money. A doubled the amounts with the others. B then doubled the amounts with the others. C then doubled the amounts with the others. At this stage each of them had rs 120. Find the initial amount with B ?
a) 85 b) 95 c) 105 d) 120

RATIO PROPORTION AND VARIATION

1. Ratio of 2 numbers is 11: 5 and their sum is 80. Find the product of the numbers
a) 1375 b) 1575 c) 1675 d) 550
2. Ratio of 2 numbers is 5:2 and their difference is 15. Find the difference of the squares Of the numbers
a) 625 b) 525 c) 725 d) 750
3. Ratio of 2 numbers is 5:3 and the product of the numbers is 375. Find the sum of the Squares of the numbers ?
a) 850 b) 950 c) 650 d) 1050
4. If $a:b = 3:2$ then what is the value of $(4a + 3b)/(4a - 3b)$?
a) $\frac{1}{3}$ b) 3 c) 2 d) $\frac{1}{2}$
5. Divide 1300 in the ratio 3:2:8?
a) 300,200,800 b) 400,200,600 c) 300,500,800 d) None
6. Divide 2600 in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$?
a) 600,400,300 b) 1200,800,600 c) 1200,500,1100 d) None
7. 3900 is divided in to 3 parts a, b, c such that $4a=3b=2c$. Find a
a) 1200 b) 900 c) 1800 d) none
8. If $a:b = 3:4$, $b:c = 5:2$ then $a:b:c$ is -
a) 10:15:8 b) 15:20:8 c) 12:5:7 d) None
9. If $a:b = 3:2$, $b:c = 4:3$, $c:d = 5:2$ then $a:b:c:d$ is -
a) 30:20:15:6 b) 30:20:13:7 c) 30:20:12:7 d) None
10. If $a:b = 5:3$, $b:c = 2:7$, $c:d = 21:2$ then $a:d$ is -

- a) 1:5 b) 5:1 c) 2:3 d) 3:2
11. If $p:q=1:2, q:r=2:3, r:s=3:4$ and $s:t=4:5$ then find $p:t$?
a) 1:3 b) 1:4 c) 1:5 d) 3:10
 12. If $3A = 4B$ and $5B = 3C$ then $A:B:C$ is –
a) 3:5:4 b) 5:3:4 c) 4:3:5 d) 12:9:15
 13. The ratio of ages of A and B is 7:9. If B is 12 years older than A, What are the respective ages of A and B in years?
a) 94, 128 b) 36, 42 c) 48, 42 d) 42, 54
 14. The ratio of ages of A, B and C is 7:5:4. If C's age is 32 years, find the sum of ages of A, B and C (in years)
a) 96 b) 80 c) 128 d) 192
 15. The ratio of ages of A and B is 2:3. Twelve years from now the ratio of their ages will become 4:5. What is A's present age?
a) 12 b) 18 c) 24 d) 30
 16. Two numbers are in the ratio 9:7. If 14 is subtracted from each, the new ratio is 7:5. Find the numbers?
a) 33, 43 b) 63, 49 c) 18, 14 d) none
 17. The ratio of two numbers is 5:8 if each number is increased by ten, the ratio becomes 7:10. Find the numbers
a) 25, 30 b) 35, 40 c) 40, 50 d) 25, 40
 18. Income and expenditure of a person are in the ratio 5:4 if income of the person is Rs. 18000 then his savings is?
a) 3600 b) 3200 c) 3000 d) 3400
 19. Find the mean proportional of the following
a) 6 and 24
a) 8 b) 12 c) 16 d) 18
b) Find the third proportion of 6 and 24
a) 72 b) 96 c) 160 d) 200
 20. Find the duplicate ratio of 25 : 4
a) 5:2 b) 125:8 c) 625 : 16 d) 25:4
 21. Three numbers are such that the diff. of the squares of the first and the third is 260. If their ratio is 4:6:9, find the numbers?
a) 12, 18, 24 b) 6, 12, 16 c) 8, 12, 18 d) 12, 18, 27
 22. A bag contains coins of denominations 25 paise, 50 paise and 1 Rs in the ratio 8:6:5. Find the amount in the bag, if the value of 50 paise coins is four rupees more than the value of 25 paise coins?
a) 60 b) 20 c) 50 d) 40
 23. A bag has ten rupee notes, five rupee notes and two rupee notes in the ratio of their denominations. The total value of five rupee notes is Rs.84 more than that of two rupee notes. Find the total value of Ten rupee notes (in Rs)?
a) 300 b) 350 c) 400 d) 450
 24. A purse contains 72 coins of one rupee, 50 paise and 25 paise coins, their values being in the ratio 10:15:8 respectively, find the number of 50 paise coins?
a) 30 b) 10 c) 32 d) 25
 25. Incomes A and B are in the ratio 6:5 and their expenditures are in the ratio 4:3. If each of them saves Rs.10000, what is the income of A?
a) 30,000 b) 24,000 c) 27,000 d) 18,000
 26. A box containing one dozen mirrors is dropped. Which of the following cannot be the ratio of the broken mirrors to unbroken mirrors?

- a) 1:1 b) 2:1 c) 5:1 d) 3:2
27. In a class of 30 students, which of the following can't be ratio of boys and girls?
a) 2:3 b) 1:5 c) 4:5 d) 2:1
28. The area of a square varies with the square of its diagonal. The area of a square is 32 sq. units when its diagonal is 8 units. Find the length of the diagonal when area is 162 sq. units?
a) 12 b) 14 c) 16 d) 18
29. 'x' varies directly as y^2 . When $y = 18$, $x = 4$, find x when $y = 12$?
a) $\frac{4}{9}$ b) $\frac{13}{9}$ c) $\frac{16}{9}$ d) $\frac{20}{9}$
30. A stone is dropped from a height of one Km. The distance it falls through varies directly with the square of the time taken. It traveled 64 km in 4 sec. Find the distance it covers in the 5th sec.?
a) 24 m b) 36 m c) 48 m d) 60 m
31. The volume of a cube varies with the cube of its side. If 3 cubes of sides 6cm, 8cm, and 10 cm are taken together and melted to form a 4th cube find the side of the 4th cube?
a) 6 cm b) 10 cm c) 24 cm d) 12 cm
32. A is directly proportional to B when C is constant and inversely proportional to the square of C when B is constant. In a particular instance when $A = 18$, $B = 25$ and $C = 10$, find A if $C = 9$ and $B = 18$?
a) 24 b) 16 c) 32 d) 12
33. A varies directly with square of B and inversely with C. When A is 18 units, B is 8 units and C is 16 units. Find the value of A When $B = 4$ and $C = 36$ units?
a) 32 b) 16 c) 8 d) 2
34. The value of a diamond varies directly with the square of its weight. A diamond broke into 3 pieces whose weights are in the ratio 32:24:9. The loss caused due to the breakage were 25.44 lacks. Find the initial value of the diamond?
a) 82.25 Lacks b) 72.25 Lacks c) 52.25 Lacks d) 42.25 Lacks
35. A diamond falls down and breaks into 3 pieces whose weights are in the ratio 2:3:5. The value of the diamond is directly proportional to the cube of its weight. If the original diamond is worth Rs.100000, what is its present value?
a) 12000 b) 16000 c) 24000 d) 48000

PERCENTAGES & PROFIT LOSS

1. If 25% of (280) is equal to 7% of (x), then x is
a) 500 b) 1000 c) 700 d) 800
2. If $A:B = 6:5$, then by what % is A is more than B?
a) 20% b) 30% c) 50% d) 10%
3. 150 is what % of 120?
a) 150% b) 125% c) 110% d) 75%
4. What % of 60 is 40?
a) $33\frac{1}{3}\%$ b) $66\frac{2}{3}\%$ c) 50% d) 80%
5. Which of the following is least?
a) 20% of (80) b) 30% of (60) c) 35% of (50) d) 40% of (45)
6. A number when decreased by 20% becomes 136. What is the number ?
a) 160 b) 150 c) 170 d) 140
7. A number when increased by 40% becomes 420. What is the number ?
a) 200 b) 300 c) 400 d) 320
8. The price of an article decreased twice successively by 5% and 2%. If the original price was 1000, what is it now?
a) 930 b) 931 c) 961 d) 981

9. The price of an article is decreased by 10%. Later the new price is increased by 10%. If the latest price is 990, the original price is –
a) 990 b) 1000 c) 1010 d) 1020
10. If A's income is 20% more than that of B, then by what % is B's income less than that of A?
a) 25% b) 20% c) $16\frac{2}{3}\%$ d) 50%
11. The price of an ice cream is decreased by 20%, then by what % should the consumption be increased in order to maintain a constant expenditure?
a) 20% b) 50% c) 25% d) 40%
12. The price of sugar increased by 50%, then by what % does the consumption of sugar be reduced so that the total expenditure on sugar increased by 20%?
a) 20% b) 25% c) 40% d) 10%
13. The price of tea increased by 20%, then by what % should the consumption be decreased so that the total expenditure is decreased by 10%?
a) 20% b) 25% c) 40% d) 10%
14. The length of a rectangle increased by 25% and the breadth decreased by 10%. What is the increased % in its area?
a) 10% b) 35% c) 15% d) 12.5%
15. A spends 60% of his salary and saves the remaining. His salary is increased by 25% and he increased his expenditure by 20%. By what % does his saving increase?
a) 30% b) 32.5% c) 35% d) 40%
16. In an examination 65% of the students passed. If the number of failures is 420, find the total number of students?
a) 1000 b) 900 c) 1200 d) 1500
17. In an election between 2 candidates, a candidate secured 62% of the votes and is elected by a majority of 144 votes. Find the total number of votes polled?
a) 400 b) 600 c) 800 d) 1000
18. The value of a machine depreciates 10% annually. If its present value is Rs.4000, its value after 2 yrs
a) 3200 b) 2000 c) 3000 d) 3240
19. In a test P got 40% of the maximum marks and got 10 marks more than the pass mark. Q got 30% of maximum marks and failed by 10 marks. Find the pass mark?
a) 60 b) 70 c) 80 d) 90
20. In a group of persons 70% of the persons are male and 30% of the persons are married. If $\frac{2}{7}$ of the males are married, what fraction of the females is single?
a) $\frac{2}{7}$ b) $\frac{1}{3}$ c) $\frac{3}{7}$ d) $\frac{2}{31}$.
21. By selling an article for Rs.450 a man loses 25%. At what price should he sell to gain 25%?
a) 450 b) 750 c) 1050 d) 800
22. The selling price of 10 articles is equal to cost price of 11 articles. Find the gain %?
a) 10% b) 30% c) 25% d) 20%
23. If an article is sold at a gain of 10% instead of at a loss of 10% then the seller gets Rs.600 more. Find the cost price?
a) 1000 b) 2000 c) 3000 d) 4000
24. A sells a computer to B at a profit of 25% and B sells to C at a profit of 30%. If C paid Rs.13000 for it, find A's CP?
a) 8000 b) 10000 c) 12000 d) 11000
25. A trader calculates his profit on the SP and declared it as 20%. Find the actual profit %?
a) 20% b) 25% c) 50% d) 40%
26. A trader gives 800 grams for every 1 kg that he sells. Find his gain %?
a) 20% b) 25% c) 40% d) 50%
27. A trader sells his goods at 20% profit and gives 800 grams for every Kg. Find his overall gain %?
a) 45% b) 50% c) 80% d) 40%
28. Find a single discount equivalent to a discount series 10%, 20%?
a) 30% b) 28% c) 10% d) 25%
29. Find a single discount equivalent to a discount series 20%, 30% 40%?
a) 60% b) 56.4% c) 66.4% d) 66.8%
30. A trader marks his goods 20% higher than the cost price and allows a discount of 5%. Find profit %

a) 114% b) 113% c) 13% d) 14%

SIMPLE INTEREST & COMPOUND INTEREST

1. Find the SI on Rs. 5000 for 2 years at 12% p.a.
a) 1000 b) 1200 c) 1400 d) 2000
2. What sum will yield an interest of Rs. 306 in 6 years at 5% p.a.
a) 840 b) 765 c) 1210 d) 1020
3. If Rs. 2000 amounts to Rs. 2200 in 2 years under SI, the R is?
a) 5% b) 10% c) 8% d) 15%
4. A sum of money at SI amounts to Rs. 560 in 3 years at 4% p.a. Find the Sum?
a) 400 b) 500 c) 600 d) 450
5. An amount of Rs, 2400 is due after 6 years under SI at 10% p.a. What is its present value?
a) 1500 b) 1600 c) 1800 d) 2000
6. Find the amount obtained by investing Rs. 24000 at 18% p.a. SI for 5 years?
a) 21600 b) 44000 c) 48000 d) 45600
7. Find the rate % p.a., if a sum double itself in 12 years at SI?
a) $6\frac{1}{4}\%$ b) $8\frac{1}{3}\%$ c) 10% d) $9\frac{1}{11}\%$
8. In how many years will a sum of money become 16 times itself at 30% p.a., SI?
a) 25 b) 40 c) 30 d) 50
9. At what rate of interest under SI, will a sum of money become 2.35 times itself in 9 years?
a) 10% b) 15% c) 8% d) 12%
10. If a certain sum doubles in 3 years under SI, in how many years would it become 5 times itself at same R%?
a) 12 b) 15 c) 9 d) 18
11. What annual installment will discharge a debt of Rs. 4600 due in 4 years at 10% SI?
A) 800 b) 1000 c) 1250 d) 1175
12. What annual installment will discharge a debt of Rs. 1035 due in 3 years at 15% SI?
a) 300 b) 400 c) 350 d) 325
13. Find the CI on Rs. 3000 at 10% p.a. for 3 years?
a) 900 b) 933 c) 963 d) 993
14. Find the CI on Rs. 1000 for 2 years at 8% p.a.
a) 160 b) 166.4 c) 168.2 d) 170
15. $P = 6000$, $R = 10\%$ Find 4th year CI?
a) 700 b) 698.60 c) 728.60 d) 798.60
16. Find the amount obtained by investing Rs.20,000 at 10% p.a. CI for 1 year, compounded annually?
a) 22000 b) 24000 c) 26000 d) 24200
17. Find the amount obtained by investing Rs. 48000, at 25% p.a. CI for 1 year compounded half yearly?
a) 54000 b) 80000 c) 75000 d) 60750
18. Find the CI on Rs. 80000 at 40% p.a. for 9 months, compounded quarterly?
a) 25480 b) 26480 c) 25680 d) 26280
19. Ram invested Rs. 50,000 for 3 years CI at the rates of 8%, 10% and 12% respectively for the 1st, 2nd & 3rd year. Find the interest earned by him?
a) 14528 b) 15528 c) 16528 d) 17528
20. A sum amounts to Rs. 14400 in 2 years at 20% p.a. CI. Find the sum?
a) 9000 b) 10000 c) 10200 d) 10400
21. A sum of money triples at CI in 7 years. In how many years will it become 27 times itself?
a) 14 b) 21 c) 28 d) 35
22. A sum becomes 3 times itself at CI in 8 years. In how many years will the sum become 81 times itself?
a) 30 b) 32 c) 34 d) 36
23. Find the difference between the CI and SI on Rs. 500 at 10% p.a. for 2 years?
a) 50 b) 30 c) 10 d) 5
24. Find the difference between the CI and SI on Rs. 25000 for 3 years at 20% p.a.
a) 2200 b) 3200 c) 3700 d) 4200

25. The SI and CI on a sum for 2 years are Rs. 800 and Rs. 864 respectively. Find the sum and rate% p.a.
a) 3600, 8% b) 4000, 16% c) 2500, 16% d) 5000, 12%
26. The SI and CI on a sum for w years are Rs. 40 and Rs. 41 respectively. Find the sum and rate % p.a.
a) 200, 10% b) 400, 5% c) 500, 5% d) 400, 8%
27. A man borrowed Rs. 10000 at 10% CI. He repaid Rs. 5000 at the end of 1st year. What amount shall he repay at the end of 2nd year to clear his loan?
a) 6000 b) 6600 c) 7200 d) 7600
28. A man borrowed Rs. 15000 at 10%. He repaid a certain amount at the end of the 1st year. At the end of the 2nd year he paid Rs. 7700 and cleared his loan. What amount did he repay at the end of 1st year?
a) 9000 b) 9500 c) 10000 d) 9200
29. A man borrowed Rs. 42000 at 10 CI. He repaid the entire amount in 2 equal installments. Find the amount paid in each installment?
a) 23200 b) 23400 c) 24000 d) 24200
30. A sum of Rs.550 was taken as a loan. This is to be repaid in 2 equal annual installments. If R = 20% CI, find the value of each installment?
a) 300 b) 340 c) 360 d) 400

AVERAGES & MIXTURES

1. Find the average of odd numbers up to 100?
a) 50 b) 100 c) 75 d) 48
2. The average of 5 successive numbers is 45 then the first number is -
a) 40 b) 43 c) 44 d) 42
3. Find the value of x, if the average of 17, 26 and x is 22?
a) 18 b) 22 c) 1 d) 23
4. The average of 8 numbers is 21. If each number is multiplied by 8, then what is the average of new set of numbers?
a) 29 b) 168 c) 166 d) 13
5. The average age of a group of 4 men whose ages are in the ration 4:5:6:7 is 44 years. What is the age of the eldest person in this group?
a) 50 b) 48 c) 42 d) 56
6. Out of 4 numbers, the average of 1st 3 is 15 and that of the last 3 is 16. If the first number is 16, what is the last number?
a) 18 b) 19 c) 20 d) 17
7. The average height of 30 girls is 160cm and the average of another 10 girls is 156 cm. Find the average height of the whole?
a) 157 cm b) 158cm c) 159 cm d) 156cm
8. The average mark of 2 classes A and B is 32 and 42 respectively. If the number of the students are in the ratio 2:3 find the average of both the classes put together?
a) 35 b) 38 c) 39 d) 40
9. The average of 20 results is 15 and the average of first 5 is 12. What is the average of the rest?
a) 16 b) 17 c) 18 d) 19
10. The average age of class of 40 boys is 16.95 years. But with the admission of a new boy the average age increases to 17 years. Find the age of the new boy?
a) 18 b) 19 c) 20 d) 21
11. The average age of a class is 20 years. 12 new students with an average age of 22 years join the class and there by increasing the average age by 1 year. Find the original strength of the class?
a) 10 b) 12 c) 14 d) 16
12. In a shopping mnall with a staff of 5 members the average age is 45 years. After 5 years a new staff joined them and the average age is again 45 years. What is the age of the new staff?
a) 20 b) 30 c) 25 d) 50

13. A group of 20 friends went to a hotel. 16 of them paid Rs. 50 each and the remaining 4 paid Rs. 10, 15, 25, 30 respectively more than the average amount paid by all. Find the total bill?
a) 900 b) 1000 c) 1100 d) 1150
14. The average of 4 numbers is 5. The first is 4 times the third, the fourth is w more than the first, the second is thrice the third. Find the greatest number?
a) 8 b) 6 c) 4.5 d) 10
15. The average mark of 120 students is 35. If the average mark of a Pass student is 39 and that of the fail student is 15 find the number of Pass students?
a) 80 b) 90 c) 100 d) 105
16. What is the arithmetic mean of $1^3, 2^3, 3^3, \dots, 19^3$?
a) 1600 b) 1700 c) 1900 d) 2000
17. Average mark of 12 students calculated to be 40. But it is found that the marks of one student wrongly entered as 42 instead of 54 and another 74 instead of 50. Find the correct average?
a) 35 b) 37 c) 38 d) 39
18. In what ratio 25% of alcohol to be mixed with 50% of alcohol to get a mixture of 40% of alcohol?
a) 2:3 b) 3:2 c) 1:4 d) 4:1
19. How many Kgs of rice costing Rs. 30 per Kg must be mixed with 18 Kgs of rice costing Rs. 10 per Kg so that the resultant mixture costs Rs. 21 per Kg?
a) 20 b) 22 c) 42 d) 30
20. How much water must be added to 14 Ltrs of Milk costs Rs. 54 per litre so that the value of the mixture is 42 Rs. Per litre?
a) 2 b) 4 c) 6 d) 8
21. A merchant lent Rs. 1000 into two parts, one at 8% and the other at 10%. The yearly average comes to 9.2%. The amount lent at 8% is
a) 400 b) 600 c) 500 d) 800
22. 2 varieties of sugar are mixed in the proportion 2:3 and the mixture is sold at Rs. 12 per Kg. at a profit of 20%. If the first variety of sugar costs Rs. 5 more than the 2nd variety, find the cost of the first variety?
a) 8 b) 12 c) 10 d) 13
23. In a mixture of 60 ltrs of ratio of milk and water is 2:1. If the ratio of milk and water is to be 1:2, then the amount of water to further added is-
a) 30 b) 60 c) 80 d) 70
24. 729 ml of a mixture containing milk and water is in the ratio 7:2. How much more water is to added to get a new mixture containing milk and water in the ratio 7:3
a) 81 b) 162 c) 27 d) 243
25. In what ratio must milk be mixed with water to gain $16 \frac{2}{3}\%$, by selling the mixture at cost price?
a) 2:3 b) 4:5 c) 6:1 d) 2:5
26. A dishonest milk man professes to sell his milk at cost price but he mixes water and thereby gains 25%. The % of water in the mixture is
a) 25% b) 20% c) 30% d) 50%
27. 1 Litre of water is added to 5 litres of 20% solution of alcohol. What is the final strength of the alcohol?
a) 30% b) $16 \frac{2}{3}\%$ c) $66 \frac{2}{3}\%$ d) 25%
28. In the above problem if 3 ltrs of alcohol is added to it what is the final strength of the alcohol?
a) 25% b) $33 \frac{1}{3}\%$ c) 50% d) $66 \frac{2}{3}\%$
29. How much water (in ml) must be added to 9 ml lotion containing 50% alcohol, so that the % of alcohol in the lotion may be 30%?
a) 3 ml b) 6 ml c) 9 ml d) 5 ml
30. A chemist has 10 ml of solution that contains 30% concentrated acid. How many ml of pure acid should be added to the solution so that the concentration of the acid is increased to 50%?
a) 2 ml b) 3 ml c) 4 ml d) 5 ml
31. Fresh grapes contain 84% water while raisins contain 20% water. How many Kgs raisin can be made from 80 kgs of fresh grapes
a) 8 b) 16 c) 20 d) 18

32. In fresh grapes 80% of weight is water while in dry grapes only 50% of the weight is water. How many Kgs of dry grapes can be obtained from 20 Kgs of fresh grapes?
a) 4 b) 8 c) 12 d) 10
33. A tank is filled with water and oil in the proportion 5:3. When 16 gallons of the mixture is drawn off and the tank is filled with 16 gallons of oil and the proportion becomes 3:5. How many gallons does the tank contains?
a) 20 Ltrs b) 40 Ltrs c) 60 Ltrs d) 30 Ltrs
34. In grade 1 gold ornament gold and silver are in the ratio 7:2 and in the grade w it is 13:3. To form grade 3, grade 1 & 2 are melted in the ration 3:4. Find the ration of gold and silver in grade 3 gold ornament?
a) 31:14 b) 67:17 c) 13:2 d) 51:53
35. A container contains 80 Kgs of milk. From this 8 kgs of milk was taken out and replaced by water. This process was further repeated 2 times. How much milk is now contained by the container?
a) 55 b) 56.34 c) 58.34 d) 60