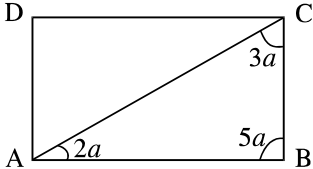
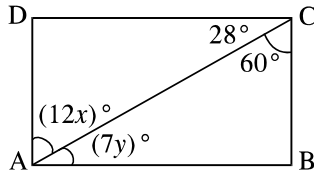


PARALLELOGRAM

1. When the opposite sides of a quadrilateral are equal to each other then it is :
 (a) a square (b) a rhombus
 (c) a parallelogram (d) None of these.
2. When the opposite angles of a quadrilateral are equal to each other then it is :
 (a) a square (b) a rhombus
 (c) a parallelogram (d) All of these.
3. If in a parallelogram, the diagonals are equal then it is a
 (a) square (b) rectangle
 (c) both (a) and (b) (d) None of these.
4. A parallelogram with a pair of its consecutive a pair of its consecutive sides equal is called a
 (a) rhombus (b) rectangle
 (c) square (d) none of these.
5. If the diagonals of a parallelogram are perpendicular, then it is a
 (a) square (b) rhombus
 (c) both (a) and (b) (d) none of these.
6. If the diagonals of a parallelogram are equal and bisect each other at right angles then it is a
 (a) square (b) rhombus
 (c) both (a) and (b) (d) none of these.
7. Which statement is true about all parallelogram ?
 (a) The diagonals are congruent
 (b) The area is the product of two adjacent sides
 (c) The opposite angles are congruent
 (d) The diagonals are perpendicular to each other
8. In parallelogram ABCD, $\angle D = 115^\circ$ then $\angle A$ and $\angle B$ is
 (a) $65^\circ, 115^\circ$ (b) $115^\circ, 65^\circ$
 (c) $115^\circ, 115^\circ$ (d) $65^\circ, 65^\circ$.
9. In parallelogram ABCD, $\angle D = 80^\circ$ then $\angle A$ and $\angle C$ is
 (a) $100^\circ, 80^\circ$ (b) $80^\circ, 100^\circ$
 (c) $100^\circ, 100^\circ$ (d) $80^\circ, 80^\circ$.
10. If fig. ABCD is a parallelogram then $\angle A, \angle B, \angle C, \angle D$ are

 (a) $\angle A = \angle B = \angle C = \angle D = 90^\circ$
 (b) $\angle A = \angle C$ and $\angle D = \angle B$
 (c) $\angle A = \angle B$ and $\angle C = \angle D$
 (d) all are true.
11. Opposite angles of pallelogram are $(3x - 2)^\circ$ and $(50 - x)^\circ$, then the value of each angle is
 (a) $37^\circ, 143^\circ, 143^\circ, 37^\circ$
 (b) $143^\circ, 143^\circ, 37^\circ, 37^\circ$
 (c) $37^\circ, 143^\circ, 37^\circ, 143^\circ$
 (d) $37^\circ, 37^\circ, 143^\circ, 143^\circ$
12. In parallelogram ABCD, $\angle ABC = 56^\circ$ then $\angle ACD$ is equal to
 (a) 56° (b) 62°
 (c) 65° (d) 20°
13. Perimeter of a parallelogram is 22 cm. If greater side = 6.5 cm then smaller side =
 (a) 4.5 cm (b) 5.5 cm
 (c) 6 cm (d) 5 cm.

84 Mathematics

14. The value of x and y in the given fig. is



- (a) $x = 5, y = 4$ (b) $x = 4, y = 5$
 (c) $x = y = 4$ (d) $x = y = 5$
15. Diagonals of parallelogram AC and BD intersect each other at O. If $AC = 6.8$ cm and $BD = 5.6$ cm. then the value of OC and OD are
 (a) 3.4 cm, 2.8 cm
 (b) 2.8 cm, 3.4 cm
 (c) 2.8 cm, 2.8 cm
 (d) 3.4 cm, 3.4 cm.
16. What is the area of parallelogram having a radius of 20 and corresponding height of 7.
 (a) 140 (b) 120
 (c) 130 (d) 14
17. In fig EFGH is a parallelogram, then value of x and y is
-
- (a) 5, 2 (b) 2, 5
 (c) 3, 4 (d) 4, 3
18. In a parallelogram PQRS diagonal PR and QS intersect at O and $PR = 4.8$ cm and $QS = 5.4$ cm. The measure of OR and OS is : (see fig. of Q. No. 18)
 (a) 2.4 cm, 2.5 cm
 (b) 2.5 cm, 2.6 cm
 (c) 2.4 cm, 2.7 cm
 (d) 2.6 cm, 2.5 cm
19. Which of the following statement are false
 a) A rectangular is also a parallelogram
 b) A trapezium is also a parallelogram
 c) rhombus is a parallelogram
 d) rhombus is also a kite
20. The exterior angles of a quadrilateral are $x^\circ, (x+5)^\circ, (x+10)^\circ$ and $(x+25)^\circ$, then value of x is
 a) 60° b) 80°
 c) 90° d) 120°
21. The diagonals of a cyclic quadrilaterals intersect at the centre of the circle. The quadrilaterals will be a
 a) parallelogram b) Rhombus
 c) Rectangle d) None of these
22. Figure made by joining the angles bisectors of a quadrilateral is
 a) quadrilateral
 b) Cyclic quadrilaterals
 c) rectangle d) Square
23. Side AB of a parallelogram ABCD represented by the equation $y+7 = \frac{3}{2}x/$
 Which equation could represent side CD.
 a) $2y+14 = 3x$ b) $3y+3 = -2x$
 c) $3y+9 = 2x$ d) $y-5 = 2x$
24. The sum of opposite angles of a parallelogram is always
 a) 360° b) 90°
 c) 180° d) None of these

ANSWERS

- | | | | |
|---------|---------|---------|---------|
| 1. (c) | 2. (d) | 3. (c) | 4. (a) |
| 5. (b) | 6. (a) | 7. (c) | 8. (a) |
| 9. (c) | 10. (d) | 11. (c) | 12. (b) |
| 13. (a) | 14. (a) | 15. (a) | 16. (a) |
| 17. (a) | 18. (d) | 19. (b) | 20. (b) |
| 21. (c) | 22. (b) | 23. (a) | 24. (c) |

RATIO AND PROPORTION

1. Ratio :

A relation obtained by comparing two quantities, similar in some sense, is called a ratio. Ratio is quantitative relation between one quantity and another quantity of the same kind, in which both quantities are expressed in the same unit.

2. If a and b are the two quantities of the

same kind ($b \neq 0$) then quotient $\frac{a}{b}$ (which is a number without unit), is called ratio of a and b . This ratio is written in the form $a : b$.

3. Facts related to ratios :

- i) The numbers a and b in ratio $a : b$ are known as terms of the ratio. Here a is called the first term and b is called the second term of the ratio.
- ii) Ratio $a : b$ indicates a quantity which shows that what multiple or part one quantity ' a ' is of other quantity ' b ' of the same kind.
- iii) The ratio of two quantities of the same kind is quantity in the form of quotient, having not unit.

4. Composition of Ratios :

For any two ratios $a : b$ and $c : d$:

- i) $a : b > c : d$, when $a \times d > b \times c$
 $\Rightarrow ad > bc$
 $\Rightarrow ad - bc > 0$.
- ii) $a : b = c : d$, when $a \times d = b \times c$
 $\Rightarrow ad = bc$
 $\Rightarrow ad - bc = 0$
- iii) $a : b < c : d$, when $a \times d < b \times c$
 $\Rightarrow ad < bc$
 $\Rightarrow ad - bc < 0$

5. Compounded Ratio : If two or more ratios are multiplied termwise, the ratio thus obtained is called their compounded ratio.

- i) The compounded ratio of $a : b$ and $c : d$ is $ac : bd$.
- ii) The compounded ratio of $a : b, c : d$ and $e : f$ is $ace : bdf$.

6. The four quantities a, b, c, d are in proportion if and only if the product of extremes is equal to the product of means.

Let ; a, b, c, d are in proportion

$$\Rightarrow a : b :: c : d$$

$$\Rightarrow a : b = c : d$$

$$\Rightarrow \frac{a}{b} = \frac{c}{d}$$

$$\Rightarrow ad = bc$$

\Rightarrow Product of extremes = product of means.

7. Continued Proportion :

Three or more quantities are said to be in continued proportion, when the ratio of the first and the second is equal of the second and the third and so on, as this can be also extended for more than three quantities.

For example, a, b, c are in continued proportion,

Where, $a : b :: b : c$

$$\Rightarrow \frac{a}{b} = \frac{b}{c}$$

$$\Rightarrow b^2 = ac$$

Here, b is called the mean proportional between a and c and c is called the third proportional to a and b .

8. If three quantities are in continued proportion, the product of the extremes is equal to the square of the mean.

Let a, b, c be in continued proportion.
Then,

$$a : b = b : c$$

$$\Rightarrow \frac{a}{b} = \frac{b}{c}$$

$$\Rightarrow b^2 = ac$$

\Rightarrow Square of the mean = Product of extremes

The mean proportional 'b' between two quantities 'a' and 'c' is equal to the square root of their product.

$$\Rightarrow b = \sqrt{ac}$$

9. If $a : b :: c : d$, then $b : a :: d : c$ and

therefore, $\frac{a}{b} = \frac{c}{d}$ gives $\frac{b}{a} = \frac{d}{c}$. This process is called **invertendo**. It implies that if four quantities are proportional, they are also proportional when taken inversely.

10. If $a : b :: c : d$, then $a : c :: d : b$ and

therefore, $\frac{a}{b} = \frac{c}{d}$ gives $\frac{a}{c} = \frac{b}{d}$. This process is called **alternendo**. It implies that if four quantities are proportional, they are also proportional when taken alternately

11. **Componendo** : If $a : b :: c : d$, then

$$(a + b) : b :: (c + d) : d$$

$$\text{As given : } \frac{a}{b} = \frac{c}{d}$$

$$\therefore \frac{a}{b} + 1 = \frac{c}{d} + 1$$

$$\Rightarrow \frac{a+b}{b} = \frac{c+d}{d}$$

12. **Dividendo**

If $a : b :: c : d$, then $(a - b) : b :: (c - d) : d$

$$\text{As given : } \frac{a}{b} = \frac{c}{d}$$

$$\therefore \frac{a}{b} - 1 = \frac{c}{d} - 1$$

$$\Rightarrow \frac{a-b}{b} = \frac{c-d}{d}$$

Fourth Proportional.

1. If $a : b = c : d$, then d is called the fourth proportional to a, b and c.

a) $a^2 : b^2$ is called duplicate ratio of $a : b$

b) $\sqrt{a} : \sqrt{b}$ is called sub-duplicate ratio of $a : b$

c) $a^3 : b^3$ is called triplicate ratio of $a : b$

d) $a^{1/3} : b^{1/3}$ is called sub triplicate ratio of $a : b$

13. **Componendo and Dividendo**

If $a : b :: c : d$, then $(a + b) : (a - b) :: (c + d) : (c - d)$ Using componendo and dividendo respectively, we get :

$$\frac{a+b}{b} = \frac{c+d}{d}$$

$$\text{and } \frac{a-b}{b} = \frac{c-d}{d}$$

Dividing the respective sides of both equations, we get,

$$\frac{a+b}{a-b} = \frac{c+d}{c-d}$$

14. If $\frac{a}{b} = \frac{c}{d} = \frac{e}{f}$, then each of these ratio is

equal to

$$\frac{a+c+e}{b+d+f} = \frac{\text{sum of antecedents}}{\text{sum of consequents}}$$

88 **Mathematics**

16. Three quantities a, b and c are in continued proportion. If $ac = 81$, then value of b will be
 a) 27 b) 18
 c) 3 d) 9
17. The ratio of two numbers is 3 : 4 and their sum is 420. the greater of two numbers is
 a) 175 b) 200
 c) 240 d) 315
18. If we want to make the numbers 7, 16, 43, 79 to proportion, then what number must be added to each of them
 a) 2 b) 13
 c) 4 d) 5
19. The sides of a triangle are in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$ and its perimeter is 104cm. The length of longest side is :
 a) 52cm b) 48cm
 c) 32cm d) 26cm
20. Two numbers are in ratio 5 : 7. When 3 is subtracted from each, the ratio becomes 2 : 3, the numbers will be
 a) 15, 21 b) 12, 15
 c) 16, 24 d) 18, 27
21. When 7 is added to two numbers in ratio 7 : 11, the ratio becomes 2 : 3. The numbers will be
 a) 7, 49 b) 49, 77
 c) 77, 49 d) 49, 7
22. is added to each term of the ratio 7 : 3 to make it 2 : 3
 a) 2 b) 3
 c) 4 d) 5
23. A fraction bears the same ratio to $\frac{1}{27}$ as $\frac{3}{7}$ bears to $\frac{5}{9}$. the fraction is
 a) $\frac{7}{45}$ b) $\frac{1}{35}$
 c) $\frac{45}{7}$ d) $\frac{5}{21}$
24. Componendo and dividendo of $\frac{a}{b} = \frac{Q}{S}$ is
 a) $\frac{a+b}{a-b} + \frac{Q+S}{Q-S}$ b) $\frac{a+b}{a} + \frac{Q-S}{S}$
 c) $\frac{a+b}{a-b} + \frac{S+Q}{Q}$ d) $\frac{a+b}{a-b} + \frac{Q+S}{S-Q}$
25. If $\frac{x}{y} = \frac{5}{3}$, then $\frac{15x+3y}{3x+5y} =$
 a) $\frac{5}{14}$ b) $\frac{1}{2}$
 c) $\frac{14}{5}$ d) $\frac{7}{2}$
26. If $1/5 : 1/x = 1/x : 1/1.25$, then the value of x is
 a) 1.25 b) 1.5
 c) 2.5 d) 2.25
27. If $\frac{P}{a} = \frac{Q}{b} = \frac{R}{c}$, then $\frac{Pa-Qb}{(a+b)(P-Q)} + \frac{Qb-Rc}{(b+c)(Q-R)} + \frac{Rc-Pa}{(c+a)(R-P)}$ is equal to
 a) 4 b) 3
 c) 1 d) 2
28. A : B = 1 : 2, B : C = 5 : 6, C : D = 3 : 4 then A : D =
 a) 22 : 18 b) 15 : 18
 c) 7 : 11 d) 16 : 48
29. After applying invertendo, 2 : 5 :: 6 : 15 becomes
 a) 5 : 2 :: 6 : 15
 b) 5 : 6 :: 2 : 15

90 **Mathematics**

- the second number.
 a) 29 b) 64
 c) 16 d) 36
45. A sum of money is to be distributed amount A,B,C,D in the proportion of 5:2 : 4:3. If C gets Rs. 1000 more than D. What is B share.
 a) 500 b) 1500
 c) 2000 d) None of these
46. In a mixture 16liter the ratio of milk and water 2:1, if this ratio is to be 1:2 then the quantity of water to be further added is
 a) 20leter b) 30leter
 c) 40leter d) 60leter
47. If $a + b : b + c : c + a = 6 : 7 : 8$ and $a + b + c = 14$; then the value of c is
 a) 6 b) 7
 c) 8 d) 14
48. Two numbers are in the ratio 3 :4 and the product of their L.C.M. and H.C.F. is 10800. The sum of the numbers is :
 a) 180 b) 210
 c) 225 d) 240
49. The ages of X and Y are in the ratio 3 :1. Fifteen years hence, the ratio will be 2:1. Their present ages (in years) are :
 a) 30, 10 b) 45,15
 c) 21,7 d) 60,20
50. A profit of Rs. 30,000 is to be distributed among A, B, C in the proportion of 3:5:7 what will be the difference between B's & C's shares ?
 a) Rs. 2,000 b) Rs. 4,000
 c) Rs. 10,000 d) Rs. 14,000
51. A bag contains 25 paise, 10 paise and 5 paise coins in the ratio 1:2:3. If their total value is Rs. 30, the number of 5 paise coins is :
 a) 50 b) 100
 c) 150 d) 200
52. The mean proportional between 0.32 and 0.021 is
 a) 0.34 b) 0.3
 c) 0.16 d) 0.08
53. Salary 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 salary?
 a) Rs. 17000 b) Rs. 20000
 c) Rs. 25000 d) Rs. 38000
54. If $A = \frac{1}{3}B$ and $B = \frac{1}{2}C$; then A:B:C is
 a) 1:3:6 b) 2:3:6
 c) 3:2:6 d) 3:1:2

ANSWERS

- | | | | | | |
|---------|---------|---------|---------|---------|---------|
| 1. (c) | 2. (a) | 3. (c) | 4. (c) | 5. (a) | 6. (c) |
| 7. (b) | 8. (a) | 9. (b) | 10. (a) | 11. (a) | 12. (c) |
| 13. (c) | 14. (b) | 15. (c) | 16. (d) | 17. (c) | 18. (d) |
| 19. (b) | 20. (a) | 21. (b) | 22. (d) | 23. (b) | 24. (d) |
| 25. (c) | 26. (c) | 27. (b) | 28. (c) | 29. (c) | 30. (a) |
| 31. (d) | 32. (d) | 33. (d) | 34. (c) | 35. (c) | 36. (d) |
| 37. (b) | 38. (c) | 39. (b) | 40. (a) | 41. (b) | 42. (d) |
| 43. (b) | 44. (d) | 45. (c) | 46. (d) | 47. (a) | 48. (b) |
| 49. (b) | 50. (b) | 51. (c) | 52. (d) | 53. (d) | 54. (a) |

PERCENTAGE AND ITS APPLICATIONS

Definitions :

- (1) **Percentage** means ‘Per hundred’ or ‘hundreth’.
- (2) ‘Percentage’ is abbreviated from the Latin word. ‘Percentum’. This is a fraction with denominator 100. We have already learnt some facts about percentage and its applications in previous classes as :
 - (a) The symbol to denote percent is %.
 - (b) Percent can be expressed in the form of a fraction or a decimal and vice-versa.

Note :

- (1) To convert % into fraction, divide by 100.
- (2) To convert fraction into percent, multiply by 100 and put sign of % along side.
- (3) To convert the decimal form into % shift the decimal point two places to the right and put sign of % along side.

Profit and Loss :

Money that a person pays to buy an article is called its **cost price (C.P.)** and the money he gets by selling it is called its **selling price (S.P.)**.

If the selling price (S.P.) of an article is more than its cost price (C.P.), we say that there is a **profit**, but on the other hand if the S.P. of an article is less than its C.P., then we say that there is a **loss** at shown according to the following :

- (1) If $S.P. > C.P.$, then
Profit = $S.P. - C.P.$
- (2) If $S.P. < C.P.$, then
Loss = $C.P. - S.P.$

If $SP = C.P$ then there is no profit no loss.

Profit or Loss is expressed as percent of the cost price.

Some useful formulae

- a) Profit = $SP - CP$
- b) Loss = $CP - SP$
- c) Profit % = $\left(\frac{\text{Profit} \times 100}{C.P.}\right)$
- d) Loss % = $\left(\frac{\text{Loss} \times 100}{C.P.}\right)$
- e) $S.P. = \left(\frac{100 + \text{Profit} \%}{100}\right) \times C.P.$
- f) $S.P. = \left(\frac{100 - \text{Loss}\%}{100}\right) \times C.P.$
- g) $C.P. = \frac{100}{(100 + \text{Profit} \%)} \times S.P.$
- h) $C.P. = \frac{100}{(100 - \text{Loss}\%)} \times S.P.$

(3) Discount

During the festival season, almost all the shopkeepers declare a rebate or discount on the marked price or list price of an article to clear the back log. This rebate is known as discount.

Discount = List Price \times rate of discount

Selling Price = List price – discount

Remarks :

- 1) When the customer or buyer buys any thing on discount, he pays the difference between the marked price and the discount.

92 Mathematics

- 2) Each subsequent successive discount is calculated on the price obtained after allowing the previous discount.
- 3) For books, the printed price is the marked price.
- 4) Electric goods and other things which are manufactured in a factory are marked according to the list supplied by the factory, at which the retailer is supposed to sell them. This price is known as the list price.

(4) Sales Tax

Sales tax is a tax charged at the time of selling the articles. Rate of sales tax is varies from article to article. The sales tax is deposited by the shopkeeper with the respective government. The Central Government as well as State Government provides various types of facilities such as construction and maintenance of roads, safety measures, hospitals and dispensaries, schools etc. for the general public. Calculation of sales tax involves the use of percentage.

This tax is calculated on selling price of articles as follows.

- (i) When no discount is given-market price of the articles becomes the sale price and sales tax is calculated on the market or list price of the article.
- (ii) When discount is given-first discount is calculated and then sales tax is calculated on the selling price of the article.

Cost of Living Index :

Index Numbers : are special type of averages. These are designed to measure the changes in one variable or group of related variables over a period of time.

In these groups of variables :

- (i) Prices of certain commodities

- (ii) Cost of living
- (iii) Agricultural production
- (iv) Import and export
- (v) Industrial production.

Thus, index numbers relate a variables or variable in a given period to the same variable or variables in another period. This period is called the **base period**. In other words, identification of a year with reference to measure the changes. This year is called a **base year**.

- (i) Price Index Number
- (ii) Quantity Index Number
- (iii) Cost of Living Index Number

The economists use index numbers to measure the pressure of economic behaviour. Therefore, index numbers can be called as **economic barometer**.

(i) **Price index number** : numerical value that measures the change in the prices of commodities over a period of time is called a price index number.

(ii) **Quantity Index Number** : A numerical value that measure the net change in the production or consumption of commodities over a period of time is called a quantity index number.

(iii) **Cost of living index number** : A number that measures the changes in price levels for a particular category of people at different times in different regions, is called the cost of living index number.

In this section of the chapter, we shall study cost of living index.

Method for Calculating Cost of Living Index Numbers :

There are various methods for finding the cost of living index. We shall calculate the

cost of living index by the method called “Weighted Aggregate Method”. According to this method, the quantities of commodities consumed by a family or a group of people are taken as same in both the years weights of these commodities are taken. The total expenditure on various items is calculated

for both years means total expenditure of the base year and total expenditure of the current year. Thus, the cost of living index is calculated as follows :

Cost of Living Index =

$$\frac{\text{Total expenditure in the current year}}{\text{Total expenditure in the base year}} \times 100$$

1. A man donated 5% of his salary to a welfare fund and 12% of the salary in a recurring saving bank account. If he has Rs. 622.50 left, then his monthly salary is :
 (a) 550 (b) 650
 (c) 750 (d) 850
2. Last year the school roll was 1400, this year it is 1365. What is the percentage change.
 (a) 2.5% fall (b) 2.56% fall
 (c) 25% fall (d) 35% fall
3. If 37% of a number is 970.86, what will be approximately 19% of that number ?
 (a) 600 (b) 400
 (c) 500 (d) 700
4. If 15% of 40 is greater than 25% of a number by 2. then the number is :
 (a) 16 (b) 20
 (c) 24 (d) 32
5. If x, is 20% less than y then by what percent y is more than x (in litre) ?
 (a) 1 Litre (b) 2 Litre
 (c) 3 Litre (d) 4 Litre.
6. If S.P. > C.P. then S.P – C.P =
 (a) Profit
 (b) Loss
 (c) No Profit, No Loss
 (d) none of these.
7. Which is greatest in $16\frac{2}{3}\%$, $\frac{2}{15}$ and 0.17 ?
 a) $16\frac{2}{3}\%$ b) $\frac{2}{15}$
 c) 0.17 d) None of these
8. If X is 90% of Y, what percent of Y is of X?
 a) 101.1 b) 190
 c) 90 d) 111.1
9. A man sells a watch at 10% below C.P. Had he received Rs. 1494 more than he did, he would have made a profit of 12½%. Then C.P. of watch for him is :
 (a) 6540 (b) 6640
 (c) 6550 (d) 6650.
10. A dealer gains Rs. 200 when he sells an article at a profit of 10%. Find the selling point of an article.
 (a) 2200 (b) 1000
 (c) 2000 (d) 1200
11. If C.P. = Rs. 440 and S.P. = Rs. 550 then Profit % =
 (a) 20% (b) 25%
 (c) 10% (d) None of these.
12. If the C.P. of 15 machines be equal to the S.P. of 20 machines. Then the loss percent is :
 (a) 5% (b) 10%
 (c) 15% (d) 25%

94 Mathematics

13. Harish's salary was decreased by 50% and subsequently increased by 50%. He has a loss of
 a) 0% b) 25%
 c) 0.25% d) 2.5%
14. List Price–Selling Price is called :
 (a) Discount (b) Rebate
 (c) both (d) None of these.
15. List Price = Rs. 500, Discount = 3% then S.P. =
 (a) Rs. 1455 (b) Rs. 45
 (c) Rs. 1545 (d) None of these.
16. List Price = Rs. 300, S.P. = Rs. 275 then Discount % =
 (a) 8% (b) 9%
 (c) $8\frac{1}{3}\%$ (d) None of these.
17. Two successive discounts of 20% and 5% are allowed on an article whose net selling price is Rs. 380. Its market price is :
 (a) Rs. 500 (b) Rs. 400
 (c) Rs. 600 (d) Rs. 700.
18. Which offer is better of two successive discounts of 10% and 8% or 18% single discount ?
 (a) first offer is better
 (b) second offer is better
 (c) both are equal
 (d) None of these.
19. Karan purchases a pair of shoes for Rs. 470. If the rate of sales tax is 9%, then the amount to be paid for shoes is :
 (a) Rs. 512 (b) Rs. 515.30
 (c) Rs. 512.30 (d) Rs. 515.
20. The marked price of a shirt is Rs 250. If Rs. 20 is the sales tax, then the rate of

- sale tax :
 (a) 5% (b) 6%
 (c) 7% (d) 8%.

21. The cost of living index find the year 2002 taking 2000 as the base year from the following data is :

Commodity	Quantity Consumed (in units)	Price in (Rs.)	
		Baseyear 2000	Current year 2002
A	80	10.00	14.00
B	20	6.50	10.00
C	10	6.00	8.00
D	25	42.00	50.00
E	40	20.00	25.00
F	25	18.00	20.00

- (a) 124.20 (Approx.)
 (b) 125.20 (Approx.)
 (c) 126.20 (Approx.)
 (d) 127.20 (Approx.)

22. Arvind spends 75% of his income. His income is increased by 20% and he increased his expenditure by 10%. His saving are increased by :
 a) 10% b) 25%
 c) $37\frac{1}{2}\%$ d) 50%
23. An wrist watch is marked at Rs. 80 is sold for Rs. 68. the rate of discount is
 a) 15% b) 12%
 c) $17\frac{11}{17}\%$ d) 20%
24. The population of a town increased from 4000 to 6000. Find the percentage increased
 a) 50% b) 20%
 c) 30% d) 40%
25. A trader marks his goods 20% above the cost price and allows a discount of 15% on it. Find his gain percent :

- a) 2% b) 12% a) 10% b) 15%
 c) 4% d) 6% c) 20% d) None of these
26. By selling a pen for Rs. 15 a man loses one sixteenth of what it costs him. The cost price of the pen is :
 a) Rs. 18 b) Rs. 20
 c) Rs. 21 d) Rs. 16
27. Ravi purchased a pressure cooker at $\frac{9}{10}$ th of its selling price and sold it 8% more than its S.P. Her gain is :
 a) 20% b) 18%
 c) 10% d) 8%
28. A man sold 2 taperecorder at Rs. 3000 each. On one he gains 20% on the other losses 20%. What percentage does he gain the whole transaction.
 a) 4% b) 8%
 c) 7% d) 6%
29. A vendor sells 10 toffees for a rupee, gaining thereby 20%. How many did he buy for a rupee ?
 a) 16 b) 14
 c) 12 d) 10
30. A fruit seller buys lemons at 2 for a rupee and sells them at five for three rupees. His gain percent is:
 a) 10% b) 15%
 c) 20% d) None of these
31. ABy selling an article for Rs. 144, a man losses $\frac{1}{7}$ th of his outlay. By selling it for Rs. 168, his gain or loss percent is
 a. 20% loss b. 20% gain
 c. $4\frac{1}{6}$ % gain d. None of these
32. The C.P. of an article is 40% of the SP. The percent that the SP of CP is
 a. 40 b. 60
 c. 240 d. 250
33. By selling 36 organges, a vendor losses the selling price of 4 oranges his loss percent is
 a. $12\frac{1}{2}$ % b. $11\frac{1}{9}$ %
 c. 10% d. None of these
34. A person bought 50 dozen eggs at Rs. 8 a dozen. Out of these 20 eggs were found broken. He sold the remaining eggs at 0.80 per egg. Find his gain or loss percent.
 a. 20% loss b. 16% profit
 c. 16% loss d. 20% profit
35. A vendor sells 5 lemons for a rupee, gaining thereby 40%. How many did he buy for a rupee?
 a. 7 b. 6
 c. 5 d. 4

Answers

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (c) | 2. (a) | 3. (c) | 4. (a) | 5. (d) |
| 6. (a) | 7. (c) | 8. (d) | 9. (b) | 10. (a) |
| 11. (b) | 12. (d) | 13. (b) | 14. (c) | 15. (a) |
| 16. (c) | 17. (a) | 18. (b) | 19. (c) | 20. (d) |
| 21. (c) | 22. (d) | 23. (a) | 24. (a) | 25. (a) |
| 26. (d) | 27. (a) | 28. (a) | 29. (c) | 30. (c) |
| 31. (d) | 32. (d) | 33. (c) | 34. (b) | 35. (a) |