

OLT 1 (Practice test 1)

Q1. Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are.

- A. 39,30 B. 41,32 C. 42,33 D. 43,34

Ans: C

Sol: $x + 9 = 56\% \text{ of } (x + x + 9)$

$x = 33, x + 9 = 42$

Q2. If the price of a product is first increased by 15% and then decreased by 20%, then what is the percentage change in the price?

- 1) 5% decrease 2) 8% increase 3) 5% increase 4) 8% decrease

Ans: 4

Solution:

Net percentage change = $15 - 20 - (15 \times 20)/100 = -8$

So, 8% decrease is the change.

Q3. By selling 12 marbles for a rupee, a shopkeeper loses 20%. In order to gain 20% in the transaction, he should sell the marbles at the rate of how many marbles for a rupee?

- A. 8 B. 6 C. 4 D. 3

Ans: A

Sol: Let's assume the cost price of the marbles is C. If the shopkeeper sells 12 marbles for a rupee, then the selling price per marble is $1/12$ of a rupee. = 0.1667 rupees. To gain 20% in the transaction, the shopkeeper should sell the marbles at the rate of 8 marbles for a rupee.

Q4. Three successive discounts of 10%, 12% and 15% amount to a single discount of:

- A. 36.28 % B. 34.68% C. 37 % D. 32.68%

Ans: D

Sol: Let Initial value = 100

Discounted value = $100 \times 0.9 \times 0.88 \times 0.85 = 67.32$

Discount% = $100 - 67.32 = 32.68\%$

Q5. To buy furniture for a new apartment, Sylvia Chang borrowed Rs 5000 at 11% per annum simple interest for 11 months. How much interest will she pay?

- A. 500 B. 504.17 C. 6050 D. 605

Ans: B

Sol: $SI = (5000 \times 11 \times 11)/(12 \times 100) = 504.17$

Q6. At a simple interest Rs.800 becomes Rs 956 in three years. If the interest rate, is increased by 3%, how much would Rs. 800 become in three years?

- A. Rs 1020.80 B. Rs 1004 C. Rs 1028 D. Data inadequate

Ans: C

Sol: Extra interest earned = $800 \times 3 \times 3/100 = 72$

So, amount after 3 years = $956 + 72 = 1028$

Q7. Two numbers are in the ratio of 3: 4. If 5 is subtracted from each, the resulting numbers are in the ratio 2: 3. Find the numbers

A. 12, 16 B. 24, 32 C. 60, 80 D. 15, 20

Ans: D

Sol: $(3x - 5) : (4x - 5) = 2 : 3$

$x = 5$

Numbers are 15, 20.

Q8. Manish borrowed a sum of Rs 1150 from Anil at the simple rate of 6% per annum for 3 years. He then added some more money to the borrowed sum of lent it to Sunil for the same time at 9% per annum at simple interest. If Manish gains Rs 274.95 by way of interest on the borrowed sum as well as his own amount from the whole transaction, then what is the sum lent by him to Sunil?

A. Rs 1290 B. Rs 1785 C. Rs 1285 D. Rs 1200

Ans: B

Sol: Let Manish added Rs. x to the borrowed money.

So, $((1150 + x) \times 3 \times 6)/100 - (1150 \times 3 \times 6)/100 = 274.95$

$x = 635$

So, Manish lent to Sunil = $1150 + 635 = 1785$

Q9. The ratio of the number of students appearing for examination in the year 1998 in the states A, B and C was 3: 5: 6. Next year if the number of students in these states increases by 20%, 10% and 20% respectively, the ratio in states A and C would be 1: 2. What was the number of students who appeared for the examination in the state A in 1998?

A. 7200 B. 6000 C. 7500 D. Data inadequate

Ans: D

Let $3x$, $5x$ and $6x$ be the number of students who appeared for the examination in 1998.

The number of students who appeared for next year from state A = $100\% + 20\%$ of $3k = 3.6k$

The number of students who appeared for next year from state B = $100\% + 10\%$ of $5k = 5.5k$

The number of students who appeared for next year from state C = $100\% + 20\%$ of $6k = 7.2k$

Since the ratio of the students who appear for the examination in 1998 and 1998 is 1 : 2 and both are same.

Therefore, the definite number of students appeared for the examination from state A can not be determined.

Hence, the correct answer is data inadequate

Q10. If the cost of 12 pencils is equal to the selling price of 10 pencils, then the profit percent in the transaction is?

A. 16.66 % B. 18% C. 20% D. 25%

Ans C

Sol: CP of 12 = SP of 10

$SP/CP = 6/5$

So, 20% profit

Q11. On decreasing the price of a fan by 30%, its sales increase by 40%. What will be the percentage decrease in its revenue?

1) 2% decrease 2) 5% decrease 3) 8% decrease 4) 3% decrease

Ans: 1

Key Concepts

Use the formula: Percentage decrease = $(\text{decrease in revenue} / \text{old revenue}) \times 100\%$

Q12. The ratio of the two numbers is 3 : 8 and their sum is 88. What is the value of the smaller number?

- 1) 11 2) 36 3) 64 4) 24

Ans: 4

Solution:

$(3+8)$ parts = 88

So, 3 parts = $(88/11)3 = 24$

Q13. If the price of rice is increased by 25 percent, then by what percentage consumption of rice should be decreased so that the expenditure incurred on rice gets decreased by 40 percent?

- 1) 52 percent 2) 43.33 percent 3) 42 percent 4) 48 percent

Ans: 1

Key Concepts

Use this information to solve the question :

$(\text{Initial price} \times \text{Initial consumption}) = (\text{Final price} \times \text{Final consumption})$

Q14. On selling a table for Rs. 210 and Rs. 420 there will be a loss of x% and y% respectively. If $x - y = 7$, then what is the cost price of the table:

- 1) Rs. 5,000 2) Rs. 3,000 3) Rs. 7,000 4) Rs. 4,000

Ans: 2

7% of CP = Difference between selling prices = $420 - 210 = 210$

CP = 3000

Q15. A person borrows Rs. 20000 at the rate of 6% per annum on simple interest for 3 years. He immediately lends it to another person at the rate of 8.5% per annum on simple interest for 3 years.

What is the value of gain per year?

- 1) Rs. 1500 2) Rs. 500 3) Rs. 800 4) Rs. 200

Ans: 3

Gain per year = 2.5% of 20000 = 500