

## L4 : Percentages

### 1-Tut : Calculate Percentage

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24% = ?

#### Options

This problem has only one correct answer

6/25

13/50

1/5

None of These

Correct Answer : A

#### Solution Description

$24\% = 24/100 = 6/25$

### 2-Tut : In Terms Of Percentage

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$3/7 = ?$  (In Terms Of Percentage) (Calculate the approx. value)

#### Options

This problem has only one correct answer

34%

43%

28%

None Of These

Correct Answer : B

#### Solution Description

$3/7 = 3/7 \times 100 = 300/7 = 42.9\% \approx 43\%$

### 3-Tut : Simplify Percent

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30% = ?

#### Options

This problem has only one correct answer

3/25

7/50

1/5

3/10

Correct Answer : D

### Solution Description

$30\% = 30/100 = 3/10$ . Hence, option (d) is correct.

### 4-Tut : Ramesh Speed

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The initial speed of Ramesh was 50 kmph. If he increased his speed by 20% then what would be his new speed?

### Options

This problem has only one correct answer

60 kmph

70 kmph

55 kmph

None Of These

Correct Answer : A

### Solution Description

Final speed =  $50 + 20\% \text{ of } 50 = 50 + (20/100) \times 50 = 50 + 10 = 60 \text{ kmph}$

### 5-Tut : Sahir's Wealth

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Sahir's wealth at the start of the year was Rs. 1000 and at the end of the year it was Rs. 1500. What was the percentage increment in the wealth of Sahir at the end of the year from the start of the year?

### Options

This problem has only one correct answer

45%

50%

75%

None Of These

Correct Answer : B

### Solution Description

Percentage increment in wealth =  $((1500 - 1000)/1000) \times 100 = 50\%$

Hence, option (b) is correct.

### 6-Tut : Ram And His Speed

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Ram's initial speed was 5 kmph and if he increased his speed by 14% then what would be his final speed?

### Options

This problem has only one correct answer

5.7 kmph

4.5 kmph

5.6 kmph

None of These

Correct Answer : A

### Solution Description

10% of 5= 0.5 , 4% of 5= 0.2

Final speed= 5+ 0.5+ 0.2= 5.7 kmph. Hence, option (a) is correct.

### 7-Tut : Percentage Change

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If  $P=XY$ , X was increased by 30% and Y was increased by 20% then what is the percentage change in P?

### Options

This problem has only one correct answer

50%

60%

56%

None of these

Correct Answer : C

### Solution Description

Final value of  $P = 1.3X \times 1.2Y = 1.56XY$

Hence, the percentage change = 56%. Option (c) is correct.

### 8-Tut : Calculate Value Of C?

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120 (Increment by 10%) -> A (Increment by 20%) -> B (Increment by 30%) -> C

What is the value of C?

### Options

This problem has only one correct answer

205.92

160.05

132.05

None Of These

Correct Answer : A

### 9-Tut : Change in Salary

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A's salary is increased by 10% and then decreased by 10%. The change in salary is

### Options

This problem has only one correct answer

0%

1% decrease

1% increase

2 % decrease

Correct Answer : B

### Solution Description

$$\begin{aligned}\text{Change in salary} &= (10 - 10 + ((10 \times -10)/100))\% = -1\% \\ &= -((10 \times 10)/100) = -1\%\end{aligned}$$

Negative sign shows decrease in salary. Hence, option (b) is correct.

### 10-Tut : Height Of Triangle

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The height of a triangle is increased by 20%. What can be the maximum percentage increase in length of the base so that the increase in area is restricted to a maximum of 50%?

### Options

This problem has only one correct answer

50%

25%

14.28%

35%

Correct Answer : B

### 11-Tut : Price Of Sugar

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The price of sugar falls by 20%. How much sugar can be bought now with the money that was sufficient to buy 20kg of sugar previously?

### Options

This problem has only one correct answer

5 kg

15 kg

25 kg

30 kg

Correct Answer : C

### 12-Tut : Rajeev And Goods

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Rajeev buys goods worth Rs. 6000. He gets a rebate of 10% on it. After getting the rebate, he pays sales tax @ 20%. Find the amount he will have to pay for the goods?

### Options

This problem has only one correct answer

- 6400
- 6480
- 6520
- 6690

Correct Answer : B

### Solution Description

Rebate = 10% of 6000 = 600;

Sales tax = 20% of (6000-600) = 1080;

Amount to be paid = 5400 + 1080 = 6480

### 13-Tut : Price Of Article

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The price of an article is first decreased by 20% and then increased by 30%. If the resulting price is Rs 416, the original price of the article is

### Options

This problem has only one correct answer

- Rs 350
- Rs 405
- Rs 400
- Rs 450

Correct Answer : C

### 14-Tut : Volume Of Box

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The length, breadth and height of an box in the shape of a cuboid are decreased by 10%, 20% and 10% respectively. Find the % change in the volume of the box.

### Options

This problem has only one correct answer

- 35.2%
- 35.2%
- 34%
- 33.33%

Correct Answer : B

## Solution Description

Let the original length, breadth and height be L,B,H respectively

New dimensions=0.9L, 0.8B, 0.9H

New volume=0.648(LBH)

% decrease= $[(LBH-0.648LBH)/LBH] \times 100\% = 35.2\%$

%change= -35.2%. Negative sign denotes decrease

## 15-Tut : Rectangle Volume

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The length and breadth of a rectangle are changed by +10% and -10%. What is the percentage change in area of rectangle?

### Options

This problem has only one correct answer

-1%

-2%

+1%

+2%

Correct Answer : A

## Solution Description

Let the initial length and breadth 'l' and 'b'. The area of rectangle = lb

Final length and breadth of rectangle 1.1l and 0.9b.

The area of rectangle= 1.1l×0.9b=0.99lb

% change in area =  $((0.99lb-lb)/lb) \times 100 = -1\%$

## 16-Tut : Hike In Salary

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I recently got a promotion accompanied by a 23% hike in salary but due to the recession my salary was reduced by 32%.What was the net change in my salary?

### Options

This problem has only one correct answer

15.89% decrement

15.89% increment

16.4 % increment

16.4 %decrement

Correct Answer : D

## Solution Description

Let initially salary be 100

After hike salary = 123

After decrement salary = 83.64

Net change=  $(83.64-100)/100 = 16.4$  decrement

### 17-Tut : Cost Of Article

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The cost of an article worth Rs100 is increased by 25% first and again decreased by x%. The final cost of the article is Rs. 100. The value of x is

#### Options

This problem has only one correct answer

- 20
- 21
- 110
- 121

Correct Answer : A

### 18-Tut : Cost Of Articles - 2

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The cost of an article worth Rs 1000 is increased by 20% first and again decreased by x%. The final cost of the article is Rs. 1000. The value of x is

#### Options

This problem has only one correct answer

- 20
- 21
- 110
- 16.67

Correct Answer : D