

Percentage Questions & Solutions

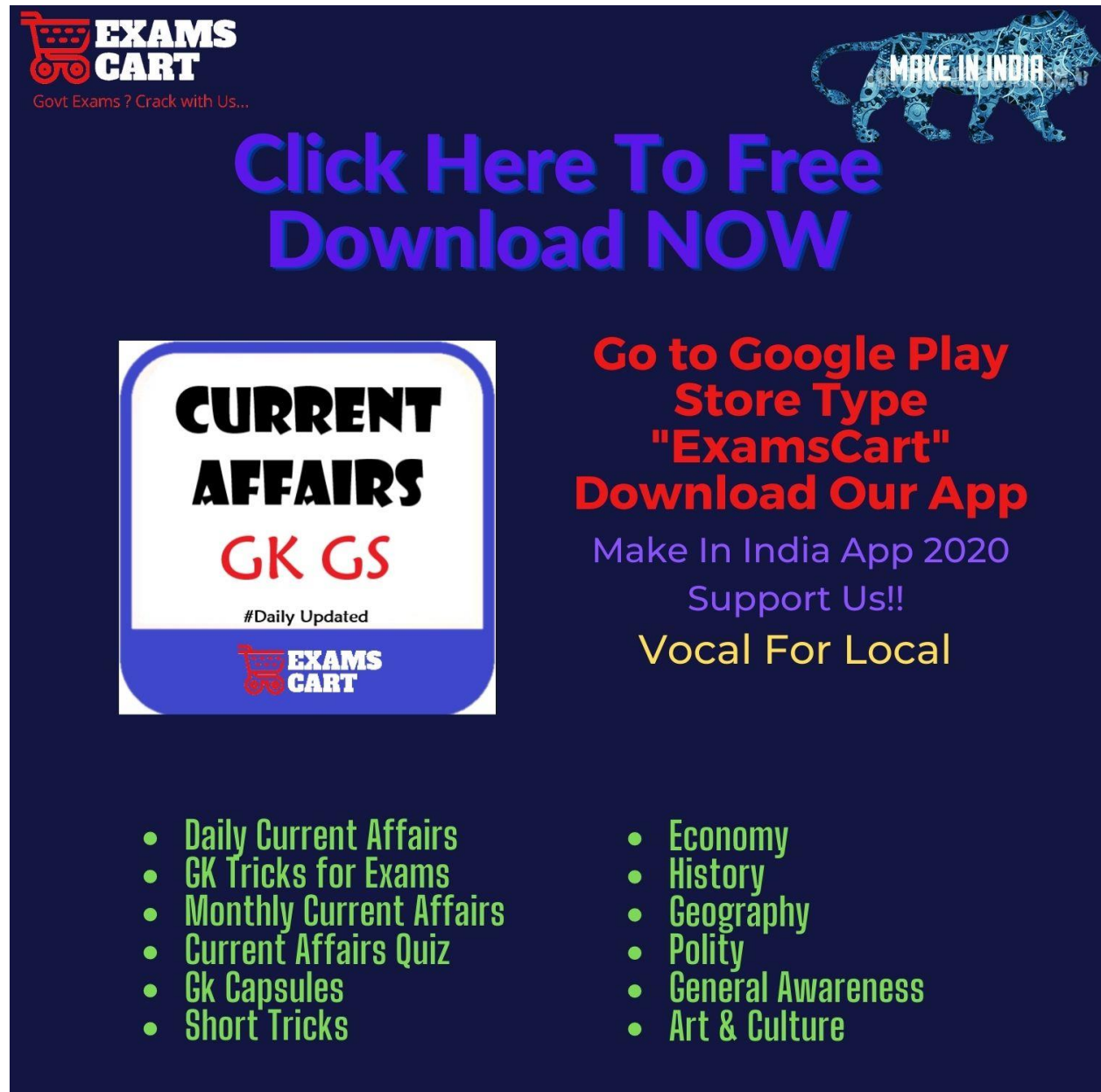
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Percentage Questions With Solutions

Veena bought a watch costing Rs. 1404 including sales tax at 8%. She asked the shopkeeper to reduce the price of the watch so that she can save the amount equal to the tax. The reduction of the price of the watch is?

- A. Rs.108
- B. Rs.104
- C. Rs.112
- D. Rs.120
- E. None of these

Answer & Explanation

B. Rs.104

Explanation:

$$1.08x = 1404$$

$$x = 1300$$

The reduction of the price of the watch = 104

• A Sales Executive gets a commission on total sales at 8%. If the sale is exceeded Rs.10,000 he gets an additional commission as a bonus of 4% on the excess of sales over Rs.10,000. If he gets the total commission of Rs.950, then the bonus he received is?

- A. 40
- B. 50
- C. 36
- D. 48
- E. None of these

Answer & Explanation

B. 50

Explanation:

$$\text{Commission up to } 10000 = 10000 * 8/100 = 800$$

$$\text{Ratio} = 2x:x ; \text{Commission} = 2x, \text{Bonus} = x ;$$

$$\text{Bonus} = 950 - 800 * 1/3 = 150 * 1/3 = 50$$

• In a College there are 1800 students. Last day except 4% of the boys all the students were present in the college. Today except 5% of the girls all the students are present in the college, but in both the days number of students present in the college, were same. The number of girls in the college is?

- A. 1000
- B. 400
- C. 800
- D. 600
- E. 1200

Answer & Explanation

C. 800

Explanation:

From Options;

$$\text{let Number of girls} = 800$$

$$\text{Number of boys} = 1000$$

96% of 1000 + 800 = 95% of 800 + 1000[satisfies the condition; Check the condition with other options also]

• In a library 60% of the books are in Hindi, 60% of the remaining books are in English rest of the books are in Malayalam. If there are 4800 books in English, then the total number of books in Malayalam are?

- A. 3400
- B. 3500
- C. 3100
- D. 3200
- E. None of these

Answer & Explanation**D. 3200****Explanation:**

Let there are X books in the library.

Hindi books = 60% of X = $60X/100 = 0.6X$

Remaining Books = $X - 0.6X = 0.4X$

English books = 40% of remaining books = 60% of $0.4X = 0.24X$.

Malayalam Books = $X - 0.6X - 0.24X = 0.16X$

Given,

$$0.24X = 4800$$

$$X = 4800/0.24 = 20000$$

$$\text{Malayalam Books} = 0.16X = 0.16 * 20000 = 3200.$$

• 80% of a small number is 4 less than 40% of a larger number. The larger number is 125 greater than the smaller one. The sum of these two numbers is

- A. 325
- B. 345
- C. 355
- D. 365
- E. None of these

Answer & Explanation**C. 355****Explanation:**

smaller number = x; larger number = y

$$0.8x + 4 = 0.4y$$

$$4y - 8x = 40$$

$$y - x = 125$$

$$x = 115; y = 240$$

$$x + y = 355$$

• In a private company 60% of the employees are men and 48% of the employees are Engineer and 66.6% of Engineers are men. The percentage of women who are not engineers is?

- A. 60%
- B. 50%
- C. 55%
- D. 65%
- E. 45%

Answer & Explanation**A. 60%****Explanation:**

Men = $600x$

Women = $400x$

Total engineers = $480x$

Male engineers = $480x * 0.66 = 320x$

Women who are Engineers = $160x$

Women who are not Engineers = $400x - 160x = 240x$

Required percentage = $240/400 * 100 = 60\%$

• **Initially, Suresh has Rs.200 in his paytm wallet then he increased it by 20%. Once again he increased his amount by 25%. The final value of money in his wallet will be how much % greater than the initial amount?**

- A. 40%
- B. 50%
- C. 80%
- D. 60%
- E. None of these

Answer & Explanation

B. 50%

Explanation:

$200 + 20\% \text{ of } 200 = 240$

$240 + 25\% \text{ of } 240 = 300$

Required percentage = $300 - 200/200 * 100 = 50\%$

• **Mr.Ramesh gives 10% of some amount to his wife and 10% of the remaining to hospital expenses and again 10% of the remaining amount to charity. Then he has only Rs.7290 with him. What is the initial sum of money with that person?**

- A. Rs.8000
- B. Rs.9000
- C. Rs.10000
- D. Rs.20000
- E. Rs.17200

Answer & Explanation

C. Rs.10000

Remaining amount = $x * 0.9 * 0.9 * 0.9$

$0.729x = 7290$

$x = 10000$

• **Initially, a shopkeeper had “x” pens. A customer bought 10% of pens from “x” then another customer bought 20% of the remaining pens after that one more customer purchased 25% of the remaining pens. Finally, shopkeeper is left with 270 pens in his shop. How many pens were there initially in his shop?**

- A. 200
- B. 800
- C. 400
- D. 600
- E. 500

Answer & Explanation

E. 500

Explanation:

$x * 0.9 * 0.8 * 0.75 = 270$

$x = 270 * 10000 / 9 * 8 * 75$

$x = 500$

• **The cost of packaging of the oranges is 20% the cost of fresh oranges themselves. The cost of oranges increased by 30% but the cost of packaging decreased by 50%, then the percentage change of the cost of packed oranges, if the cost of packed oranges is equal to the sum of the cost of fresh oranges and cost of packaging**

- A. 14.5%
- B. 16.66%

- C. 14.33%
 D. 13.66%
 E. None of these

Answer & Explanation**B. 16.66%****Explanation:**

Let initial Cost of fresh, oranges = 100.
 packaging cost = 20. Initial total cost = 100 + 20 = 120
 After increasing in cost of fresh mangoes 30%,
 Cost of fresh mangoes = 130
 And cost of packing go down by 50 % so,
 Cost of packing = 10.
 Total cost = 130 + 10 = 140.
 Increased cost = 140 – 120 = 20.
 % increased = $(20 \times 100) / 120 = 16.66\%$.

•

Cost Price of two laptops is same. One of the laptops is sold at a profit of 15% and the Selling Price of another one laptop is Rs. 3400 more than the first one. The net profit is 20%. What is the Cost Price of Each laptop?

- A.36000
 B.40000
 C.48000
 D.34000
 E.None of these

Answer & Explanation**D.34000****Explanation:**

$(2x \times 1.15) + 3400 = 2x \times 1.20$
 $2.4x - 2.3x = 3400$
 $x = 34000$

• **In an office there are 40% female employees. 50% of the male employees are UG graduates. The total 52% of employees are UG graduates out of 1800 employees. What is the number of female employees who are UG graduates?**

- A. 362
 B. 412
 C. 396
 D. 428
 E. None of these

Answer & Explanation**C. 396****Explanation:**

Total employees = 1800
 female employees = 40%
 male employees = 60%
 50% of male employees = UG graduates = 30%
 Female employees who are UG graduates = 22%
 22% of 1800 = 396

• **Ravi got 70% in English and 56% in Biology and the maximum marks of both papers is 100. What percent does he score in Maths, if he scores 60% marks in all the three subjects?. Maximum Marks of Maths paper is 200.**

- A. 30%

- B. 40%
- C. 45%
- D. 25%
- E. 57%

Answer & Explanation**E. 57%****Explanation:** $70 + 56 + x = 60\%$ of all three subjects $70 + 56 + x = 60\%$ of 400 $x = 240 - 126 = 114$ $\% = 114/200 * 100 = 57\%$

• **Ankita is 25 years old. If Rahul's age is 25% greater than that of Ankita then how much percent Ankita's age is less than Rahul's age?**

- A. 40%
- B. 35%
- C. 10%
- D. 20%
- E. None of these

Answer & Explanation**D. 20%****Explanation:**Percentage decrease = $25/125 * 100 = 20\%$

• **Mr.Ravi's salary was reduced by 25% for three months. But after the three months, his salary was increased to the original salary. What is the percentage increase in salary of Mr.Ravi?**

- A. 33.33%
- B. 42.85%
- C. 28.56%
- D. 16.66%
- E. None of these

Answer & Explanation**A. 33.33%****Explanation:**Percentage increase = $25/75 * 100 = 33.33\%$

• **In an election only two candidates A and B contested 30% of the voters did not vote and 1600 votes were declared as invalid. The winner, A got 4800 votes more than his opponent thus he secured 51% votes of the total voters on the voter list. Percentage votes of the loser candidate, B out of the total voters on the voter list is:**

- A. 5.6%
- B. 3%
- C. 6.2%
- D. 5%
- E. 4.6%

Answer & Explanation**B. 3%****Explanation:**

Total voters on the voter list = x

 $0.51x + 0.51x - 4800 = 0.70x - 1600$ $1.02x - 4800 = 0.70x - 1600$ $x = 10000$ Votes of the loser candidate = $5100 - 4800 = 300$ Percentage votes of the loser candidate = $300/10000 * 100 = 3\%$

• In a school there are 2000 students. On January 2nd, all the students were present in the school except 4% of the boys and on January 3rd, all the students are present in the school except 28/3% of the girls, but in both the days number of students present in the school, were same. The number of girls in the school is?

- A. 400
- B. 1200
- C. 800
- D. 600
- E. None of these

Answer & Explanation

D. 600

Explanation:

From Options;

let Number of girls = 600

Number of boys = 1400

96% of 1400 + 600 = [600 - 28/3 % of 600] + 1400 = 1944[satisfies the condition; Check the condition with other options also]

• A school has raised 75% of the amount it needs for a new building by receiving an average donation of Rs. 1200 from the parents of the students. The people already solicited represents the parents of 60% of the students. If the School is to raise exactly the amount needed for the new building, what should be the average donation from the remaining students to be solicited?

- A. Rs.800
- B. Rs.900
- C. Rs.850
- D. Rs.600
- E. Rs.720

Answer & Explanation

D. Rs.600 Explanation:

Let the number of parents be x who has been asked for the donations.

People already solicited = 60% of x = 0.6x

Remaining people = 40% of x = 0.4x

Amount collected from the parents solicited = 1200 * 0.6x = 720x

720x = 75%; Remaining amount = 25% = 240x

Thus, Average donations from remaining parents = 240x / 0.4x = 600

• The monthly income of Shyama and Kamal together is Rs.28000. The income of Shyama and Kamal is increased by 25% and 12.5% respectively. The new income of Kamal becomes 120% of the new salary of Shyama. What is the new income of Shyama?

- A. Rs.12000
- B. Rs.18000
- C. Rs.14000
- D. Rs.16000
- E. Rs.15000

Answer & Explanation

E. Rs.15000

Explanation:

The monthly income of Shyama and Kamal => S + K = 28000 —(1)

Shyama's income = x; Kamal's income = 28000 - x.

K = 120/100 * S —(2)

S's new income = (28000 - x) * 112.5/100

K's new income = x * 125/100

(28000 - x) * 112.5/100 = x * 125/100

$$x = 12000$$

New Income of Shyama = 125% of 12000 = 15000

• **500 kg of ore contained a certain amount of iron. After the first blast furnace process, 200 kg of slag containing 12.5% of iron was removed. The percentage of iron in the remaining ore was found to be 20% more than the percentage in the original ore. How many kg of iron were there in the original 500 kg ore?**

- A. 54.2
- B. 58.5
- C. 46.3
- D. 42.4
- E. 89.2

Answer & Explanation

E. 89.2.

Explanation:

Initially 'x' kg of iron in 500 kg ore.

Iron in the 200 kg of removed = $200 \times 12.5/100 = 25$ kg.

The percentage of iron in the remaining ore was found to be 20% more than the percentage in the original ore

$$\text{So } (x-25)/300 = (120/100) \times x/500$$

$$\Rightarrow x - 25 = 18x/25$$

$$\Rightarrow 7x = 625$$

$$\Rightarrow x = 89.2$$

• **In a class of 60 students, 40% of the students passed in Reasoning, 5% of the students failed in Quants and Reasoning, and 20% of the students passed in both the subjects. Find the number of student passed only in Quants?**

- 1.17
- 2.33
- 3.23
- 4.37
- 5. None of these

Answer & Explanation

Answer – **2.33**

Explanation :

Total students=60

Failed in both=5% of 60=3

Passed in both=20% of 60=12

Passed in reasoning=50% of 60=24

Those passed only in reasoning = $24 - 12 = 12$ students.

Passed only in Quants = $60 - (12 + 12 + 3) = 33$

• **The maximum marks per paper in 3 subjects in Mathematics, Physics and Chemistry are set in the ratio 1 : 2 : 3 respectively. Giri obtained 40% in Mathematics, 60% in Physics and 35% in Chemistry papers. What is overall percentage marks did he get overall?**

- 1.44%
- 2.32%
- 3.50%
- 4.60%
- 5. None of these

Answer & Explanation

Answer – **1.44%**

Explanation :

$$40 \times \frac{1}{100} : 60 \times \frac{2}{100} : 35 \times \frac{3}{100} = 0.4 : 1.2 : 1.05$$

$$\text{Overall \%} = 100 \times \frac{0.4 + 1.2 + 1.05}{1 + 2 + 3} = \frac{265}{6} = 44.16 = 44\%$$

• In an examination, 50% of the students passed in Science and 75% passed in Social, while 20% students failed in both the subjects. If 270 students passed in both subjects, find the total number of students who appeared in the exam?

- 1.400
- 2.540
- 3.600
- 4.750
5. None of these

Answer & Explanation

Answer – 3.600 Explanation :

passed in science = 50%

passed in social = 75%

20% students failed in both the subjects and 80% passed in at least one subject

$$\text{No of students passed in both subjects} = 50 + 75 - x = 80 \quad x = 45\% \quad 45\% \text{ of } x = 270 \quad x = \frac{270 \times 100}{45} = 600$$

$$\text{Total number of students} = 600$$

• Fresh fruits contain 75% while dry fruits contain 20% water. If the weight of dry fruits is 300 kg, what was its total weight when it was fresh?

- 1.900kg
- 2.850kg
- 3.920kg
- 4.960kg
5. None of these

Answer & Explanation

Answer – 4.960kg

Explanation :

Quantity of water in 300 kg dry fruits, = $(\frac{20}{100}) \times 300 = 60$ kg

Quantity of fruit alone = $300 - 60 = 240$ kg

25 kg fruit piece in 100 kg fresh fruits

$$\text{For } 240 = \frac{(100 \times 240)}{25} = 960 \text{ kg.}$$

• In a college election 35% voted for Person A, whereas 42% voted for Person B. The remaining people were not vote to any person. If the difference between those who vote for Person B in the election and those who are uncertain was 570, how many people are participated in the college election?

- 1.1500
- 2.2000
- 3.2100
- 4.1700
5. None of these

Answer & Explanation

Answer – 2.3000

Explanation :

Let the number of individuals involved in election be x.

$$\text{Percentage of those who were not vote} = 100 - (35 + 42) = 23\%$$

The difference between those who voted

$$42\% \text{ of } x - 23\% \text{ of } x = 570$$

$$19\% \text{ of } x = 570$$

$$x = \frac{570 \times 100}{19} = 3000$$

• In a factory there are three types of bulbs L1, L2 and L3 which produces 20%, 15% and 32% of the total products respectively. L1, L2 and L3 produces 3%, 7% and 2% defective products, respectively. Find the percentage of non-defective products ?

- 1.46%
- 2.30%
- 3.53%
- 4.64%
- 5. None of these

Answer & Explanation

Answer – 4.64%

Explanation :

$$(20 \times 0.97) + (15 \times 0.93) + (32 \times 0.98) = 19.4 + 13.95 + 31.36 \\ = 64.71$$

• In a class of 500 students ,65% are boys. 20% of the girls and 40% of the boys failed the exam. Find the of students in the school passed the exam?

- 1.335
- 2.270
- 3.400
- 4.362
- 5. None of these

Answer & Explanation

Answer – 1.335

Explanation :

Total students are 100% = 500

Boys = 65% of 500 = 325,

Girls = 35% = $35 \times 500 / 100 = 175$

Girls failed in the exam = $175 \times 80 / 100 = 140$

Boys failed in the exam = $40 / 100 \times 325 = 195$

Total = $140 + 195 = 335$

• The population of village increases at the rate of 6% per annum. There is an additional increase of 2% in the population due to rural development .Therefore the percentage increase in the population after 2 years will be

- 1.15.46%
- 2.16.64%
- 3.14.46%
- 4.12.56%
- 5. None of these

Answer & Explanation

Answer – 2.16.64%

Explanation :

Total increase = $6 + 2 = 8\%$

% increase = $8 + 8 + (8 \times 8 / 100) = 16 + 0.64 = 16.64\%$

• The total salary of Guagn and Harish in an organization is Rs 30000. If the salary of Gugan increase by 5% and salary of Harish increase by 7%, then their total salary would increase to Rs 31800. Find the salary of Harish ?

- 1.Rs.10,000
- 2.Rs.15,000
- 3.Rs.18,000
- 4.Rs.12,000
- 5. None of these

Answer & ExplanationAnswer – **2.Rs.15,000****Explanation :**

7% increases 30000 = Rs 2100 = 30000+2100 = Rs 32,100

But the actual increase in salary = 31800

Difference = 32100 – 31800 = 300

2% = 300

Gugan's salary = $300/2 \times 100 = 15000$

Harish's salary = 30000 – 15000 = Rs 15000

• **In an examination 70% candidates passed in prelims and 55% candidates passed in Mains. If 62% candidates passed in both these subjects, then what per cent of candidates failed in both the exams?**

1.37%

2.26%

3.43%

4.15%

5. None of these

Answer & ExplanationAnswer – **1.37%****Explanation :**

Students passed in Prelims = 70%

Students passed in Mains = 55%

Students passed in both = 62%

No of students passed in at least one subject = $(70+55)-62 = 63\%$.students failed in both subjects = $100-63 = 37\%$.

• **In a class, 60% of the students are boys and in an examination, 80% of the girls scored more than 40 marks (Maximum Marks:150). If 60% of the total students scored more than 40 marks in the same exam, what is the fraction of the boys who scored 40 marks or less.**

A. 8/15

B. 7/15

C. 4/5

D. 1/5

Answer & Explanation**A. 8/15****Explanation:**

Assume Total no of students = 100

60% of the students are boys. so Boys=60, Girls=40

No. of girls who scored more than 40 marks = 80% of girls = 80% of 40 = 32.

No. of students who scored more than 40 marks = 60% of Total Students = 60

Therefore No. of boys who scored more than 40 marks = $60-32=28$ No. of boys who scored less = Total boys – Boys(scored more) = $60-28=32$ Fraction = $(\text{scored less})/\text{Total boys} = 32/60 = 8/15$

• **In an election 10% of the voters on the voters' list did not cast votes and 60 voters cast their ballot papers blank. There were only two candidates. The winner was supported by 47% of all voters in the list and he got 308 votes more than his rival. The number of voters on the list was:**

A. 3600

B. 6200

C. 4575

D. 6028

Answer & Explanation

B. 6200**Explanation:**

Let total number of voters = x

People who voted for the winner are = $0.47x$

People who voted for the loser are = $0.47x - 308$

People who cast blanks are = 60

and people who did not vote are = $0.1x$

solve the following equation

$$0.47x + 0.47x - 308 + 60 + 0.1x = x \Rightarrow x = 6200$$

• Deepak was to get a 50% hike in his pay but the computer operator wrongly typed the figure as 80% and printed the new pay slip. He received this revised salary for three months before the organization realized the mistake. What percentage of his correct new salary will get in the fourth month, if the excess paid to him in the previous three months is to be deducted from his fourth month?

- A. 30%
- B. 40%
- C. 45%
- D. 25%

Answer & Explanation**B. 40%****Explanation:**

Assume Deepak's salary = 10000

original hike(50%) amount = 5000 ; Revised salary = 15000

Wrongly typed(80%) hike amount = 8000

Diff = 3000; For three months = 9000

Fourth Month Salary = 15000 - 9000 = 6000

$$15000 * x / 100 = 6000 \Rightarrow x = 40\%$$

• The prices of two articles are in the ratio 3 : 4. If the price of the first article be increased by 10% and that of the second by Rs. 4, the original ratio remains the same. The original price of the second article is

- A. Rs.40
- B. Rs.35
- C. Rs.10
- D. Rs.30

Answer & Explanation**A. Rs.40****Explanation:**

Let the price of two articles are $3X$ and $4X$.

After increment the ratio will be:

$$110\% \text{ of } 3x / (4X + 4) = 3/4$$

$$x = 10$$

Thus the CP of second article = $4X = 4 * 10 = \text{Rs. } 40$.

• The ratio of the number of boys and girls in a school is 3:2. If 20% of the boys and 25% of the girls are scholarship holders, the percentage of the students who are not scholarship holders is

- A. 30%
- B. 60%
- C. 75%
- D. 78%

Answer & Explanation**D. 78%****Explanation:**

Consider Total no of students = 100

Ratio is 3:2 i.e Boys=60 and Girls=40

20% of boys who get scholarship = $60 \times 20/100 = 12\%$

25% of girls who get scholarship = $40 \times 25/100 = 10\%$

Therefore % of students who do not get scholarship = $100 - (12 + 10) = 78\%$

• Sohan spends 23% of an amount of money on an insurance policy, 33% on food, 19% on children's education and 16% on recreation. He deposits the remaining amount of Rs. 504 in bank. How much total amount did he spend on food and insurance policy together?

- A. Rs.3146
- B. Rs.3126
- C. Rs.3136
- D. Rs.3048

Answer & Explanation

C. Rs.3136

Explanation:

Total amount = x

Savings(%)

$[100 - (23 + 33 + 19 + 16)]\% = 9\%$

9% of x = 504

$\Rightarrow x = 504 \times 100/9 = 5600$

Amount spend on food and insurance policy together = 56% of 5600 = Rs.3136

• Deepika went to a fruit shop with a certain amount of money. She retains 15% of her money for auto fare. She can buy either 40 apples or 70 oranges with that remaining amount. If she buys 35 oranges, how many more apples she can buy?

- A. 35
- B. 40
- C. 15
- D. 20

Answer & Explanation

D. 20

Explanation:

Assume Total amount = Rs.100

Auto fare= 15% of Total amount i.e Rs.15

Now the amount is Rs.85

Price of 70 oranges = Rs.85

Price of 35 oranges = $(85/70) \times 35 = \text{Rs. } 42.50$

Remaining amount to buy apples is =Rs. 42.50

Price of 40 apples = Rs.85

Price of X apples = Rs.42.50

$X = (85/42.5) \times 40 = 20$ Apples

• The price of a car is Rs. 4,50,000. It was insured to 80% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?

- A. Rs.1,76,375
- B. Rs.3,24,000
- C. Rs.1,82,150
- D. Rs.1,26,000

Answer & Explanation

D. Rs.1,26,000 Explanation:

$4,50,000 \times (80/100) \times (90/100) = 324000$

$450000 - 324000 = \text{Rs. } 1,26,000$

• The tank-full petrol in Arun's motor-cycle last for 10 days. If he starts using 25% more every day, how many days will the tank-full petrol last?

- A.4
- B.6
- C.8
- D.10

Answer & Explanation

C.8

Explanation:

Assume – Arun's motorcycle uses 1L per day and therefore tank's Capacity = 10L.

25% increased per day = $1 + (25/100) = 5/4$ ie. 1.25L per day

Days = $10/1.25 = 8$

• Last year there were 610 boys in a school. The number decreased by 20 percent this year. How many girls are there in the school if the number of girls is 175 percent of the total number of boys in the school this year ?

- A. 854
- B. 848
- C. 798
- D. 782

Answer & Explanation

A. 854

Explanation:

No of boys in a school last year = 610

No of boys in a school for this year

$610 * 80/100 = 488$

$610 - 488 = 122$

No of girls = $175/100 * 122 = 213.5$

•

A reduction of 20% percent in the price of rice enables a housewife to buy 5 kg more for rupees 1200. The reduced price per kg of rice

- a) 36
- b) 45
- c) 48
- d) 60
- e) None of these

Answer & Explanation

Answer – c) 48

Explanation :

let original price is x rupees per kg

$1200/(4x/5) - 1200/x = 5$

We will get $x = 60$, so reduced price = $(4*60)/5 = 48$

• The population of a village has increased annually at the rate of 20%. If at the end of 3 years it is 21600, the population in the beginning of the first year?

- a) 10000
- b) 12500
- c) 15000
- d) 17500
- e) None of these

Answer & Explanation

Answer – b) 12500

Explanation :

$$21600 = P \cdot (1 + 20/100)^3$$

• **12 percent of the voters in an election did not cast their votes. In this election there are only two candidates. The winner by obtaining 45% of the total votes and defeated his rival by 2000 votes. The total number of votes in the election**

- a) 50000
- b) 75000
- c) 100000
- d) 125000
- e) None of these

Answer & Explanation

Answer – c) 100000

Explanation :

12% percent didn't cast their vote. 45% of total votes get by the winning candidates, so remaining 43% will be scored by his rival. So,

$$(45/100 - 43/100) \cdot P = 2000$$

$$P = 100000$$

• **A number is first decreased by 25%. The decreased number is then increased by 20%. The resulting number is less than the original number by 40. Then the original number is –**

- a) 100
- b) 200
- c) 300
- d) 400
- e) None of these

Answer & Explanation

Answer – d) 400

Explanation :

Let the number is a

$$a - (75/100) \cdot a \cdot (120/100) = 40$$

we will get a = 400

• **The number of seats in a cinema hall is decreased by 8% and also the price of the ticket is increased by 4 percent. What is the effect on the revenue collected?**

- a) increase 4.32%
- b) decrease 4.32%
- c) increase 3.32 percent
- d) decrease 3.32%
- e) None of these

Answer & Explanation

Answer – b) decrease 4.32%

Explanation :

Let initially seats are 100 and price of each seat is 100, so total initial revenue = 10000

now, seats are 92 and price of each seat = 104, so total revenue = 92*104 = 9568

so percent change in revenue = $(432/10000) \cdot 100 = 4.32$ decrease

• **A man spends 60% of his income. His income is increased by 20% and his expenditure also increases by 10%. Find the percentage decrease in his saving?**

- a) 10%
- b) 15%
- c) 20%

- d) 25%
e) None of these

Answer & Explanation

Answer – a) 10%

Explanation :

Let initially income is 100. So, expenditure = 60 and saving = 40

now income is increased by 20% i.e. 120. So, expenditure = $(70/100) \times 120 = 84$ and saving = 36

so % percent decrease in saving = $(4/40) \times 100 = 10\%$

• **Weights of two friends A and B are in the ratio of 1:2. A's weight increases by 20% and the total weight of A and B together becomes 60 kg, with an increase of 30%. By what percent the weight of B increase?**

- a) 30%
b) 35%
c) 40%
d) 45%
e) None of these

Answer & Explanation

Answer – b) 35%

Explanation :

weight of A is x and weight of B is 2x

given that 60 kg weight is the 30% percent increase of the original weight, so

$(130/100) \times W = 60$, $W = 600/13$ kg (W = original weight)

$X + 2x = 600/13$, $x = 200/13$

So weight of A = $200/13$ and of B = $400/13$

$(120/100) \times (200/13) + [(100 + a)/100] \times (400/13) = 60$

Solve for a. We will get a = 35%

• **The marked price of an article is 20% higher than the cost price. A discount of 20% is given on the marked price. In this transaction the seller**

- a) bears no loss no profit
b) losses 4%
c) gain 4%
d) losses 1%
e) None of these

Answer & Explanation

Answer – b) losses 4%

Explanation :

let cost price = 100 so, marked price = 120

now discount of 20% is given, so sp = $120 \times 80/100 = 96$

so % loss = $(4/100) \times 100 = 4$ percent

• **When the price of rice is increased by 30 percent, a family reduces its consumption such that the expenditure is only 20 percent more than before. If 50 kg of rice is consumed by family before, then find the new consumption of family (approx.)**

- a) 43kg
b) 44kg
c) 45kg
d) 46kg
e) None of these

Answer & Explanation

Answer – d) 46kg

Explanation :

Suppose initially price per kg of rice is 100 then their expenditure is 5000.

Now their expenditure is only increased by only 20% i.e – 6000.

Increased price of rice = 130.

So new consumption = $6000/130 = 46$

• **A man has 4000 rupees in his account two years ago. In the first year he deposited 20 percent of the amount in his account. In the next year he deposited 10 percent of the increased amount in the account. Find the total amount in the account of the person after 2 years.**

- a) 6650
- b) 5280
- c) 5740
- d) 5840
- e) None of these

Answer & Explanation

Answer – b) 5280

Explanation :

$4000 + 800 + 480 = 5280$

•

In an election contested by two parties A and B, party A secured 25 percent of the total votes more than Party B. If party B gets 15000 votes. By how much votes does party B loses the election?

- a) 8000
- b) 10000
- c) 12000
- d) 15000
- e) None of these

Answer & Explanation

Answer – b) 10000

Explanation :

Let total votes = T and party B gets 15000 votes then party A will get T -15000 votes

$T - 15000 - 15000 = 25T/100$

$T = 40000$, so A get 25000 and B gets 15000 votes, so difference = 10000

• **A vendor sells 50 percent of apples he had and throws away 20 percent of the remainder. Next day he sells 60 percent of the remainder and throws away the rest. What percent of his apples does the vendor throw?**

- a) 20%
- b) 22%
- c) 24%
- d) 26%
- e) None of these

Answer & Explanation

Answer – d) 26%

Explanation :

Let total apples be 100

first day he throws = $50 * 20 / 100 = 10$ apples

next day he throws = $40 * 40 / 100 = 16$ apples

so total = 26

• **40% of the women are above 30 years of age and 80 percent of the women are less than or equal to 50 years of age. 20 percent of all women play basketball. If 30 percent of the women above the age of 50 plays basketball, what percent of players are less than or equal to 50 years?**

- a) 50%
- b) 60%
- c) 70%

- d) 80%
e) None of these

Answer & Explanation

Answer – c) 70%

Explanation :

take total women = 100

Women less than or equal to 50 years = 80 and women above 50 years = 20

20 = women plays basketball

30% of the women above 50 plays basketball = 6

So remaining 14 women who plays basketball are less than or equal to 50 years

So $(14/20) \times 100 = 70\%$

• **Alisha goes to a supermarket and bought things worth rupees 60, out of which 40 paise went on sales tax. If the tax rate is 10 percent, then what was the cost of tax free items?**

- a) 54.60
b) 55.60
c) 56.60
d) 57.60
e) None of these

Answer & Explanation

Answer – b) 55.60

Explanation :

tax = $40/100 = (10/100) \times T$, $T = 4$

so cost of tax free items = $60 - 4 - 0.40 = 55.60$

• **60 percent of the employees of a company are women and 75% of the women earn 20000 or more in a month. Total number of employees who earns more than 20000 per month in the company is 60 percent of the total employees. What fraction of men earns less than 20000 per month?**

- a) 5/8
b) 5/7
c) 1/5
d) 3/4
e) None of these

Answer & Explanation

Answer – a) 5/8

Explanation :

let total employees are 100

males = 40 and females = 60 (45 women earns more than 20000)

total 60 employee earns more than 20000 per month, so number of males earns more than 20000 is 15

so fraction = $25/40 = 5/8$

• **In a library, 30% of the books are in History. 50% of the remaining are in English and 40% of the remaining are in German. The remaining 4200 books are in regional languages. What is the total number of books in library?**

- a) 10000
b) 15000
c) 20000
d) 25000
e) None of these

Answer & Explanation

Answer – c) 20000

Explanation :

$(70/100) \times T \times (50/100) \times (60/100) = 4200$

• A got 30% of the maximum marks in an examination and failed by 10 marks. However, B who took the same examination got 40% of the total marks and got 15 marks more than the passing marks. What were the passing marks in the examination?

- a) 65
- b) 75
- c) 80
- d) 90
- e) None of these

Answer & Explanation

Answer – e) None of these

Explanation :

$$(30/100)*T = P - 10$$

$$(40/100)*T = P + 15$$

$$U \text{ will get } P = 85$$

• The population of a town is 15000. It increases by 10 percent in the first year and 20 percent in the second year. But in the third year it decreases by 10 percent. What will be the population after 3 years.

- a) 16820
- b) 15820
- c) 17820
- d) 19820
- e) None of these

Answer & Explanation

Answer – c) 17820

Explanation :

$$15000*(11/10)*(12/10)*(9/10) = 17820$$

• 30 litre of solution contains alcohol and water in the ratio 2:3. How much alcohol must be added to the solution to make a solution containing 60% of alcohol?

- a) 10
- b) 12
- c) 14
- d) 15
- e) None of these

Answer & Explanation

Answer – d) 15

Explanation :

$$\text{alcohol} = 30*2/5 = 12 \text{ and water} = 18 \text{ litres}$$

$$(12 + x)/(30 + x) = 60/100, \text{ we will get } x = 15$$

• 2000 sweets need to be distributed equally among the school students in such a way that each student gets sweet equal to 20% of total students. Then the number of sweets, each student gets.

- a) 50
- b) 100
- c) 120
- d) 150
- e) None of these

Answer & Explanation

Answer – b) 100

Explanation :

$$(20/100)*t*t = 2000 \text{ (total students} = t)$$

• In a library 5 percent books are in English, 10 percent of the remaining are in hindi and 15 percent of the remaining are in Sanskrit. The remaining 11628 books are in French. Then find the total number of books in the library.

- a) 8000
- b) 12000
- c) 16000
- d) 20000
- e) None of these

Answer & Explanation

Answer – c) 16000

Explanation :

Let total books are A, then $(95/100) \times (90/100) \times (85/100) \times A = 11628$

• A solution contains 10% of salt by weight. On evaporation 15 litre of water evaporates and now concentration of salt becomes 20 percent. Find the initial quantity of solution

- a) 20ltr
- b) 30ltr
- c) 40ltr
- d) 50ltr
- e) None of these

Answer & Explanation

Answer – b) 30ltr

Explanation :

Let initial quantity is x litre

final, salt = $(x/10) / (x - 15) = 20/100$

• A student has to get 40 percent marks to pass an examination. He got 60 marks but fails by 20 marks. Find the maximum marks of the examination.

- a) 150
- b) 200
- c) 300
- d) 400
- e) None of these

Answer & Explanation

Answer –b) 200

Explanation :

$(40/100) \times M - 20 = 60$ (M is the maximum marks)

• The number of seats in a cinema hall is decreased by 12 percent and the price of tickets also decreased by 4 percent. Find the change in the collection of revenue.

- a) decrease 15.52%
- b) decrease 16.52%
- c) decrease 17.52%
- d) decrease 14.325
- e) None of these

Answer & Explanation

Answer –a) decrease 15.52%

Explanation :

Let initial seats = 100 and cost per seat = 100, so initial revenue = 10000

now final revenue = $88 \times 96 = 8448$

% percent change in revenue = $[(10000 - 8448) / 10000] \times 100 = 15.52\%$

• A trader marks the price at 8 percent higher than the original price. Due to the hike in demand he again increases the price by 10 percent. How much percent profit he gets.

- a) 17.8%
- b) 18.8%
- c) 19.8%
- d) 20.8%
- e) None of these

Answer & Explanation

Answer – b) 18.8%

Explanation :

Suppose initial price = 100

Then final price = $100 \times (108/100) \times (110/100) = 118.8$

So percent profit = 18.8

• The population of a town is 15000. It increases by 10 percent in the first year and 20 percent in the second year. But in the third year it decreases by 10 percent. What will be the population after 3 years.

- a) 16820
- b) 15820
- c) 17820
- d) 19820
- e) None of these

Answer & Explanation

Answer – c) 17820

Explanation :

$15000 \times (11/10) \times (12/10) \times (9/10) = 17820$

• One type of liquid contains 20 percent milk and in other liquid it contains 30 percent milk. If 4 parts of the first and 6 parts of the second are taken and formed a new liquid A. Find the percentage of milk in third liquid.

- a) 26
- b) 28
- c) 29
- d) 30
- e) None of these

Answer & Explanation

Answer – a) 26

Explanation :

milk = 20 and water = 80 (in 1st liquid)

milk = 30 and water = 70 (in 2nd liquid)

milk in final mixture = $20 \times 4 + 30 \times 6 = 260$

so $(260/1000) \times 100 = 26\%$

• A man has 2000 rupees in his account two years ago. In the first year he deposited 20 percent of the amount in his account. In the next year he deposited 10 percent of the increased amount in the account. Find the total amount in the account of the person after 2 years.

- a) 2650
- b) 2640
- c) 2740
- d) 2840
- e) None of these

Answer & Explanation

Answer – b) 2640

Explanation :

$2000 + 400 + 240 = 2640$ (400 in first year and 240 is added in the second year)

• **1000 sweets need to be distributed equally among the school students in such a way that each student gets sweet equal to 10% of total students. Then the number of sweets, each student gets.**

- 10
- 12
- 14
- 16
- None of these

Answer & Explanation

Answer – a) 10

Explanation :

No of students = T. Each student gets 10% of T. So, T students get $T^2/10$ sweets.

$T^2/10 = 1000$. We get $T = 10$

• **If the price of an article is increased by 15%, then by how much the household should decrease their consumption so as to keep his expenditure same.**

- $13(1/23)$ %
- $13(2/23)$ %
- $11(1/23)$ %
- $11(2/23)$ %
- None of these

Answer & Explanation

Answer – a) $13(1/23)$ %

Explanation :

Decrease in expenditure = $(15/115) * 100 = 300/23$ %

• **If the price of an article is increased by 15%, then by how much the household should decrease their consumption so as to keep his expenditure same.**

- $1.13(1/23)$ %
- $1.13(2/23)$ %
- $1.11(1/23)$ %
- $1.11(2/23)$ %
- None of these

Answer & Explanation

Answer – 1. $13(1/23)$ %

Explanation :

Decrease in expenditure = $(15/115) * 100 = 300/23$ %

• **The ratio between male and female in a city is 3: 7. The children percentage among the males and females of the city is 25 and 30 percent respectively. If the number of adult males in the city is 18000, then find the population of the town?**

- 70000
- 280000
- 385000
- 495000
- None of these

Answer & Explanation

Answer – 2.80000

Explanation :

Males and females are 3x and 7x respectively

$(3x) \cdot 75/100 = 18000$. $X = 8000$
 so total population = $10 \cdot 8000 = 80000$

• **Pankaj gave 50 percent of the amount to akash. Akash in turn gave two-fifth of the amount to venu. After paying a bill of 500 rupees, venu now have 8000 rupees left with him. Find the amount hold by pankaj initially.**

- 1.41500
- 2.42500
- 3.43500
- 4.44500
5. None of these

Answer & Explanation

Answer – 2. 42500

Explanation :

Let pankaj have P amount initially

$$[(50/100) \cdot P] \cdot 2/5 - 500 = 8000$$

$$P = 42500$$

• **Rakesh spent 30 percent of his monthly income on food items. Of the remaining amount he spent 60 percent on clothes and bills. Now he save five-seventh of the remaining amount and the he saves 120000 yearly, then find his monthly income.**

- 1.40000
- 2.50000
- 3.60000
- 4.70000
5. None of these

Answer & Explanation

Answer – 2. 50000

Explanation :

Let monthly income is P

$$(70/100) \cdot P \cdot (40/100) \cdot 5/7 = 10000$$

$$P = 50000$$

• **Weight of A and B are in the ratio of 3:5. If the weight of A is increased by 20 percent and then the total weight becomes 132 kg with an increase of 10 percent. B weight is increased by what percent.**

- 1.2%
- 2.3%
- 3.4%
- 4.5%
5. None of these

Answer & Explanation

Answer – 3. 4%

Explanation :

Weight of A and B are $3x$ and $5x$.

$$\text{Initial weight before increase} = (132 \cdot 100)/110 = 120$$

$$8x = 120. X = 15$$

Initial weight of A and B are 45 and 75 kg respectively.

New weight of A = 54 so weight of B = $132 - 54 = 78$.

$$\text{So \% increase} = [(78-75)/75] \cdot 100 = 4 \%$$

• **When the price of rice is increased by 25 percent, a family reduces its consumption such that the expenditure is only 10 percent more than before. If 40 kg of rice is consumed by family before, then find the new consumption of family.**

- 1.35.2
- 2.35.2
- 3.36.2
- 4.37.2
- 5.None of these

Answer & Explanation

Answer – **2.35.2**

Explanation :

Suppose initially price per kg of rice is 100 then their expenditure is 4000.

Now their expenditure is only increased by only 10% i.e – 4400.

Increased price of rice = 125.

So new consumption = $4400/125 = 35.2$

• **The price of rice is increased by 20 percent and a person decrease his consumption by 15 percent, so his expenditure on rice is-**

- 1.increase by 2 percent
- 2.increase by 4 percent
- 3.decrease by 2 percent
- 4.decrease by 4 percent
- 5.None of these

Answer & Explanation

Answer – **1.increase by 2 percent**

Explanation :

Let initial price of rice – 100 and new price of rice – 120

suppose initial consumption is 100kg and new consumption is 85kg

Initial expenditure = 10000

New expenditure = 10200

$(200/10000)*100 = 2$ percent increase

• **A salary is 40 percent more than B. B's salary is 30 percent less than C. If the difference between the salary of C and A is 1200 rupees, then what is the monthly income of C**

- 1.50000
- 2.60000
- 3.70000
- 4.80000
- 5.None of these

Answer & Explanation

Answer – **2.60000**

Explanation :

$A = (140/100)*B$

$B = (70/100)*C$

$[(100/70) - (140/100)]*B = 1200.$

$B = 42000.$

$C = (100/70)*42000 = 60000$

• **When the price of rice is increased by 30 percent, a family reduces its consumption such that the expenditure is only 20 percent more than before. If 50 kg of rice is consumed by family before, then find the new consumption of family (approx.)**

- 1.43kg
- 2.44kg
- 3.45kg
- 4.46kg
- 5.None of these

Answer & Explanation

Answer – **4.46kg**

Explanation :

Suppose initially price per kg of rice is 100 then their expenditure is 5000.

Now their expenditure is only increased by only 20% i.e – 6000.

Increased price of rice = 130.

So new consumption = $6000/130 = 46.1$

• **One type of liquid contains 20 percent of milk and second type of liquid contains 40 percent milk. If 4 part of the first and 6 part of the second are mix, then what is the percent of water in the mixture.**

1.64%

2.66%

3.68%

4.70%

5.None of these

Answer & Explanation

Answer – **3.68%**

Explanation :

Do these type of question by taking 100 litre

water = 80ltr and 60ltr in first and second mixture respectively

now percent of water = $[(80*4 + 60*6)/1000]100 = 68\%$

• **40% of the students like Mathematics, 50% like English and 10% like both Mathematics and English. What % of the students like neither English nor Mathematics?**

A) 25%

B) 10%

C) 20%

D) 60%

E) 80%

Answer & Explanation

C) 20%

Explanation:

$n(M \text{ or } E) = n(M) + n(E) - n(M \text{ and } E)$

$n(M \text{ or } E) = 40+50-10 = 80$

so % of the students who like neither English nor Mathematics = $100 - 80 = 20\%$

• **A watermelon weighing 20 kg contains 96% of water by weight. It is put in sun for some time and some water evaporates so that now it contains only 95% of water by weight. The new weight of watermelon would be?**

A) 17 kg

B) 15 kg

C) 18.5 kg

D) 16 kg

E) 18 kg

Answer & Explanation

D) 16 kg

Explanation:

Let new weight be x kg

Since the pulp is not being evaporated, the quantity of pulp should remain same in both cases. This gives

$(100-96)\%$ of 20 = $(100-95)\%$ of x

Solve, x = 16 kg

• If the price of wheat is reduced by 2%. How many kilograms of wheat a person can buy with the same money which was earlier sufficient to buy 49 kg of wheat?

- A) 58 kg
- B) 60 kg
- C) 52 kg
- D) 55 kg
- E) 50 kg

Answer & Explanation

E) 50 kg

Explanation:

Let the original price = 100 Rs per kg

Then money required to buy 49 kg = $49 \times 100 = \text{Rs } 4900$

New price per kg is $(100-2)\%$ of Rs 100 = 98

So quantity of wheat bought in 4900 Rs is $4900/98 = 50$ kg

• Monthly salary of A is 30% more than B's monthly salary and B's monthly salary is 20% less than C's. If the difference between the monthly salaries of A and C is Rs 800, then find the annual salary of B.

- A) Rs 14,500
- B) Rs 16,800
- C) Rs 15,000
- D) Rs 16,000
- E) None of these

Answer & Explanation

E) None of these

Explanation:

Let C's monthly salary = Rs 100, then B's = $(100-20)\%$ of 100 = 80, and A's monthly = $(100+30)\% \times 80 = 104$

If difference between A and C's monthly salary is Rs 4 then B's monthly salary is Rs 80

So if difference is Rs 800, B's monthly salary is $(80/4) \times 800 = 16,000$

So annual salary = $12 \times 16,000$

• Mixture 1 contains 20% of water and mixture 2 contains 35% of water. 10 parts from 1st mixture and 4 parts from 2nd mixture is taken and put in a glass. What is the percentage of water in the new mixture of glass?

- A) $17 \frac{5}{7}\%$
- B) $24 \frac{2}{7}\%$
- C) $28 \frac{1}{5}\%$
- D) $24 \frac{1}{7}\%$
- E) $18 \frac{2}{7}\%$

Answer & Explanation

B) $24 \frac{2}{7}\%$

Explanation:

Water in new mixture from 1st mixture = $(20/100) \times 10 = 2$ parts

Water in new mixture from 2nd mixture = $(35/100) \times 4 = 7/5$ parts

Required % = $\left[\frac{2 + (7/5)}{10+4} \right] \times 100$

• 3 years ago the population of a town was 1,60,000. In the three respective years the population increased by 3%, 2.5% and 5% respectively. What is the population of town after 3 years?

- A) 1,77,366
- B) 1,66,733
- C) 1,76,736

D) 1,80,766

E) 1,69,766

Answer & Explanation

A) 1,77,366

Explanation:New population = $1,60,000 [(1 + (3/100))] [(1 + (2.5/100))] [(1 + (5/100))]$

• **There are 2500 students who appeared for an examination. Out of these, 35% students failed in 1 subject and 42% in other subject and 15% of students failed in both the subjects. How many of the students passed in either of the 2 subjects but not in both?**

A) 1925

B) 1175

C) 1275

D) 1100

E) 1800

Answer & Explanation

B) 1175

Explanation:Failed in 1st subject = $(35/100) * 2500 = 875$ Failed in 2nd subject = $(42/100) * 2500 = 1050$ Failed in both = $(15/100) * 2500 = 375$ So failed in 1st subject only = $875 - 375 = 500$ failed in 2nd subject only = $1050 - 375 = 675$ passed in 1st only + passed in 2nd only = $500 + 675 = 1175$

• **A bucket is filled with water such that the weight of bucket alone is 25% its weight when it is filled with water. Now some of the water is removed from the bucket and now the weight of bucket along with remaining water is 50% of the original total weight. What part of the water was removed from the bucket?**

A) 2/5

B) 1/4

C) 2/3

D) 1/2

E) 1/3

Answer & Explanation

C) 2/3

Explanation:Let original weight of bucket when it is filled with water = x Then weight of bucket = $(25/100) * x = x/4$ Original weight of water = $x - (x/4) = 3x/4$ Now when some water removed, new weight of bucket with remaining water = $(50/100) * x = x/2$ So new weight of water = new weight of bucket with remaining water – weight of bucket = $[(x/2) - (x/4)] = x/4$ So part of water removed = $[(3x/4) - (x/4)] / (3x/4) = 2/3$

• **In a survey done by a committee, it was found that 4000 people have smoking habit. After a month this number rose by 5%. However due to continuous advices given by the committee to the people, the number reduced by 5% in the next month and further by 10% in the next month. What is the total number of smokers after 3 months?**

A) 3457

B) 3491

C) 3578

D) 3591

E) 3500

Answer & Explanation**D) 3591****Explanation:**

Number of smokers after 3 months will be = $4000 * (1 + (5/100)) (1 - (5/100)) (1 - (10/100))$
= 3591

- There are 5000 students in a school. The next year it was found that the number of boys and girls increased by 10% and 15% respectively making the total number of students in school as 5600.

Find the number of girls originally in the school?

- A) 4500
- B) 2000
- C) 3000
- D) Cannot be determined
- E) None of these

Answer & Explanation**B) 2000****Explanation:**

Let number of girls = x, then no of boys = (5000-x). then

10% of (1000-x) + 15% of x = (5600-5000)

Solve, x = 2000

-

If x is 20% more than y, then by what percent y is smaller than x.

- a) 50/3 %
- b) 40/3 %
- c) 46/3 %
- d) 47/3 %

Answer & Solution

Answer – a) 50/3 %

Solution:

$x = 120y/100$ or $x = 6y/5$

$y = 5x/6$. Percentage by which y is smaller

Than x is $[(x - 5x/6)/x] * 100 = 50/3 %$

- In an alloy, there is 15% of brass, to get 90 kg of brass, how much alloy is needed ?

- a) 400 kg
- b) 500 kg
- c) 600 kg
- d) 700

Answer & Solution

Answer – c) 600 kg

Solution:

Let X kg of alloy is needed. So, 15/100 of X = 90. So X = 600 kg

- 25 litre of solution contains alcohol and water in the ratio 2:3. How much alcohol must be added to the solution to make a solution containing 60% of alcohol ?

- a) 10.5 ltr
- b) 11.5 ltr
- c) 12.5 ltr
- d) 13.5 ltr

Answer & Solution

Answer – c) 12.5 ltr

Solution:

Initially alcohol $\frac{2}{5} * 25 = 10$ ltr and water is 15 ltr.

To make a solution of 60% alcohol $\frac{10+x}{25+x} = \frac{60}{100}$. $X = 12.5$

• In an examination if a person get 20% of the marks then it is fail by 30 marks. Another person who gets 30% marks gets 30 marks more than the passing marks. Find out the total marks and the passing marks.

- a) 600 and 150
- b) 600 and 180
- c) 500 and 150
- d) 500 and 180

Answer & Solution

Answer – a) 600 and 150

Solution:

20% of $X = P - 30$ ($X =$ Maximum marks and $P =$ passing marks)

30% of $X = P + 30$. Solve for X and P .

• A company has produced 900 pieces of transistor out of which 15% are defective and out of remaining 20 % were not sold. Find out the number of sold transistor.

- a) 610
- b) 611
- c) 612
- d) 614

Answer & Solution

Answer – c) 612

Solution:

No of transistor sold = $900 * (\frac{85}{100}) * (\frac{80}{100}) = 612$

• In an election the votes between the winner and loser candidate are in the ratio 5:1. If total number of eligible voters are 1000, out of which 12% did not cast their vote and among the remaining vote 10% declared invalid. What is the number of votes the winner candidate get ?

- a) 620
- b) 630
- c) 640
- d) 660

Answer & Solution

Answer – d) 660

Solution:

Ratio b/w winner and loser 5:1

Total no of votes casted actually = $1000 * (\frac{88}{100}) * (\frac{90}{100}) = 792$

$5x + x = 792$, $X = 132$

Votes of winner candidate = $5 * 132 = 660$

• If the price of a commodity is increased by 30%, by how much % a consumer must reduce his consumption so to keep the expenditure same ?

- a) 100/13
- b) 200/13
- c) 300/13
- d) 400/13

Answer & Solution

Answer – c) 300/13

Solution:

If commodity price is increased then reduction in consumption will be

$[(\text{increase in price})/100 + \text{increase in price}] * 100$.

$(30/130) * 100 = 300/13\%$

• 1000 sweets need to be distributed equally among the school students in such a way that each student gets sweet equal to 10% of total students. Then the number of sweets, each student gets.

- a) 10
- b) 12
- c) 14
- d) 16

Answer & Solution

Answer – a) 10

Solution:

No of students = T. Each student gets 10% of T.

So, T students get $T^2/10$ sweets.

$T^2/10 = 1000$. So $T = 100$. So each student gets 10 sweets

• Rishi salary is first increased by 20% and then decreased by 25%. How much percent the salary increased/decreased ?

- a) 5%
- b) 10%
- c) 15%
- d) 20%

Answer & Solution

Answer – b) 10%

Solution:

Take 100 as rishi salary.

Increased by 20% percent = 120.

Then decreased by 25%, i.e = $(75/100) * 120 = 90$.

So percentage decrease is 10%.

• The income of a person is 10000 and its expenditure is 6000 and thus saves 4000rs. In the next year his income is increased by 10% and its expenditure increased by 20%. Now his saving is what percent lower than the previous saving.

- a) 5%
- B) 7.5%
- c) 10%
- d) 15%

Answer & Solution

Answer – a) 5%

Solution:

Initially $I - E = S$ (I = Income, E = expenditure, S = saving)

$10000 - 6000 = 4000$ (saving)

Now, I = 11000 and E = 7200. So saving = $I - E = 3800$.

$[(4000 - 3800)/4000] * 100 = 5\%$

•

From the salary, Akilesh spent 15% for house rent, 5% for children's education and 15% for Entertainment. Now he left with Rs.13,000. His salary is

- A) 19,000
- B) 20,000
- C) 18,000
- D) 15,000

Answer

B) 20,000

Explanation :

$10 + 15 + 10 = 35\%$

$$100-35 = 65\% = 13,000$$

$$100\% = 100 * 13000 / 65 = 20,000$$

- In a School, 40% of the students are female and thus the no of boys exceed the no of girls by 40. Find the total no of students.

- A)190
- B)100
- C)200
- D)180

Answer

C)200

Explanation :

$$60x - 40x = 40$$

$$X = 40/20 = 2$$

$$100 * 2 = 200$$

- In an examination 30% of the students failed in Science, 45% of the students failed in Maths and 25% of the students failed in both subjects. Find the % of the students passed ?

- A)60%
- B)30%
- C)45%
- D)50%

Answer

D)50%

Explanation :

$$\% \text{ of students failed} = 30 + 45 - 25 = 50\%$$

$$\% \text{ of students passed} = 100 - 50 = 50\%$$

- In an examination Ammu scored 56% marks, Saran scored 90% marks and Rima scored 650 marks that is 65% then find the total marks of three students ?

- A)2110
- B)1250
- C)2450
- D)2010

Answer

A)2110

Explanation :

$$95\% = 650$$

$$100\% = 100 * 650 / 65 = 1000$$

$$56\% = 560$$

$$90\% = 900$$

$$\text{Total} = 650 + 560 + 900 = 2110$$

- The salary of a workers increased by 15% and decreased by 7%, What % change rises in his salary ?

- A)10%
- B)7%
- C)5%
- D)8%

Answer

B)7%

Formula : $x - y - (xy/100)$

$$\text{Explanation : } \% = 15 - 7 - [(15 * 7) / 100] = (800 - 105) / 100 = 6.95 = 7\%$$

• The population of a village is decreased by 12% and 10% in 2 successive years. What % population is decreased after 2 years ?

- A)18.4%
- B)30.6%
- C)20.8%
- D)23.5%

Answer

C)20.8%

Explanation :

$$\begin{aligned} \% &= -12 -10 + (-12 \cdot -10)/100 \\ &= (-2200 + 120)/100 \\ &= -2080/100 = -20.8\% \end{aligned}$$

• In an examination, 30% of the maximum marks required to pass. A student get 120marks and failed by 90marks. Find the maximum marks

- A)800
- B)720
- C)650
- D)700

Answer

D)700

Explanation :

$$\begin{aligned} 30x/100 &= 120+90 = 210 \\ X &= 210 \cdot 100/30 = 700 \end{aligned}$$

• P's income is 20% more than Q's income. How much % Q's income less than P's income ?

- A)18.54%
- B)16.67%
- C)17.76%
- D)15.75%

Answer

B)16.67%

Explanation :

$$\begin{aligned} B \text{ income} &= 100 \\ A \text{ income} &= 100 \cdot 120/100 = 120 \\ \% &= (120-100/120) \cdot 100 = 16.67\% \end{aligned}$$

• The price of rice is increased by 15%. The percentage of reduction that a family should effect in that use of rice, so as not to increase the expenditure is

- A)13%
- B)10%
- C)15%
- D)17%

Answer

A)13%

Formula : $x \cdot 100/x+100$

Explanation : Reduction % = $15 \cdot 100/100+15 = 1500/11513.04 = 13\%$

• The value of commodity depreciated 20% annually. If the value of commodity 3yrs ago was Rs.10,500,Find it's present value ?

- A)3678
- B)5700
- C)4567
- D)5376

Answer**D)5376**

Explanation :

$$\begin{aligned}\text{Present value} &= 10,500 * 80 * 80 * 80 / 100 * 100 * 100 \\ &= 10500 * 8 * 8 * 8 / 1000 \\ &= 5376\end{aligned}$$

•

One type of liquid contains 20% water and the second type of liquid contains 35% water. A glass filled with 8 parts of the first liquid and 5 parts of the second liquid. The water percentage in the new mixture is

- A)25.75
- B)25.76
- C)25.67
- D)25.56
- E)None of these

Answer**Answer -B) 25.76%**

Explanation :

$$[(20 \times 8) + (35 \times 5)] / (8 + 5) = 335 / 13 = 25.76\%$$

• **In an examination there are 3 subjects Maths, Science and Social of 100 marks each. Ganesh scores 60% and 80% in Maths and Science. He scored 70% in aggregate. His Percentage of mark in Social is**

- A)50
- B)60
- C)70
- D)80
- E)None of these

Answer**Answer -C) 70**

$$\begin{aligned}\text{Total percentage of 3 subjects} &= 3 \times 70 = 210 \\ \% \text{ in Social} &= 210 - (60 + 80) = 210 - 140 = 70\end{aligned}$$

Explanation :

• **If the radius of the circle is increased by 5% then the area is increased by**

- A)10.20
- B)10.22
- C)10.24
- D)10.25
- E)None of these

Answer**Answer -D) 10.25%**

$$5 + 5 + ([5 \times 5] / 100) = 10 + 0.25 = 10.25\%$$

Explanation :

• **A number is mistakenly divided by 8 instead of being multiplied by 8. What is the percentage of error in the result ?**

- A)98.43
- B)98.34
- C)95.76
- D)97.76
- E)None of these

Answer

Answer -A) 98.43

Explanation :

$$\begin{aligned} \% \text{ of error} &= \left(\frac{[8x - (x/8)]}{8x} \right) \times 100 \\ &= \left[\frac{64 - 1}{64} \right] \times 100 \\ &= \frac{63 \times 100}{64} = 98.43 \end{aligned}$$

• A book consist of 45 pages, 30 lines on each page and 60 character on each line.If this content is written in another note book consisting of 40 lines and 32 character oer line then the required no of pages will be how much percentage more than the previous no of pages ?

- A)20%
- B)30%
- C)40%
- D)50%
- E)None of these

Answer

Answer -C) 40%

Explanation :

$$\begin{aligned} 45 \times 30 \times 60 &= X \times 40 \times 32 \\ \text{Page} = X &= \frac{(45 \times 30 \times 60)}{(40 \times 32)} = 63.28 = 63 \\ 63 - 45 &= 18 \\ (18/45) \times 100 &= 40\% \end{aligned}$$

• In an election a candidate who got 25% of the total votes polled was defeated by his rival by 270 votes. Assuming that there were only 2 candidates in the election,the total number of votes polled was

- A)400
- B)500
- C)440
- D)540
- E)None of these

Answer

Answer -D) 540

Explanation :

$$\begin{aligned} 75\% \ x - 25\% \ x &= 270 \\ 50\% \ \text{of } x &= 270 \\ X &= \frac{(270 \times 100)}{50} = 540 \end{aligned}$$

• The total number of girls in a class is 45% more than the total number of boys in the class.The total number of students in the class is 294 then what is the difference between the total number of girls and boys ?

- A)54
- B)52
- C)76
- D)78
- E)70

Answer

Answer -A) 54

Explanation :

$$\begin{aligned} \text{No of boys} &= x \\ \text{No of girls} &= X + x(45/100) \\ &= 29x/20 \\ \text{Total} &= X + (29x/20) = 294 \\ 49x &= 294 \times 20 = 5880 \\ X &= 5880/49 = 120(\text{boys}) \end{aligned}$$

Girls = $(29 \times 120) / 20 = 174$
Difference = $174 - 120 = 54$

• **The population of a town is 16500. During the last 3 years, the population increased at the rate of 20% per year. The population 3 years ago was**

- A) 9546
- B) 9547
- C) 9548
- D) 9549
- E) 9550

Answer

Answer -D) 9549

Explanation :

$$\begin{aligned} &= 16500 / \{1 + (20/100)\}^3 \\ &= (16500 \times 10 \times 10 \times 10) / (12 \times 12 \times 12) \\ &= 9548.6 = 9549 \end{aligned}$$

• **The mean annual salary paid to all employees was Rs.5000. The mean annual salary paid to all male and female workers were Rs.5200 and Rs.4200. The percentage of female worker in the company is**

- A) 80%
- B) 20%
- C) 60%
- D) 40%
- E) None of these

Answer B 20%

• **The passing marks in an examination is 40%. If Ashok gets 88 marks and is declared failed by 10 marks, then the maximum mark in the examination is**

- A) 240
- B) 242
- C) 245
- D) 246
- E) None of these

Answer

Answer -C) 245

Explanation :

$$88 + 10 = 98$$

$$\text{Pass mark} = 40\%$$

$$\text{Maximum mark} = (98 \times 100) / 40 = 245$$