

A man deposited Rs.10,000 in a bank at 5% p.a. Simple Interest. Another man deposited Rs.8,000 at 10% p.a. Compound Interest. After 2 years, what will be the difference in their interests?

(TCS- NQT-2025)

$$\begin{array}{l|l}
 \text{SI} & \text{CI} \\
 \hline
 100\% \rightarrow 10000 & 10\% \rightarrow 8000 \\
 10\% \rightarrow 1000 & 21\% \rightarrow 1680 \\
 \downarrow \text{SI} & \downarrow \text{CI} \\
 6800 & a+b+\frac{ab}{100} \\
 & 10+10+\frac{100}{100}=21\%
 \end{array}$$

A man purchased two products each price 3600. While selling on one at 24% profit and on other at 24% loss. What is his overall % profit and loss?

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$$\begin{array}{l}
 \text{Same CP} \leftarrow \\
 \text{Two products} \\
 \frac{+a+b}{2} \\
 \frac{+24-24}{2} = 0 \\
 \text{Overall Profit} = \text{No Profit}
 \end{array}$$

A vendor bought pen at 7 for Rs.6 and sold them at 2 for Rs.2. Find the profit %

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$$\begin{array}{l}
 7 \text{ Pens for } 6/- \\
 \text{CP of each pen} = \frac{6}{7} \text{ Rs} \\
 \text{SP of each pen} = 1 \text{ Rs} \\
 \text{P\%} = \frac{\text{SP} - \text{CP}}{\text{CP}} \times 100 \\
 = \frac{1 - \frac{6}{7}}{\frac{6}{7}} \times 100 \Rightarrow \left(\frac{1}{6} \right) \times 100 = 16.66\%
 \end{array}$$

The population of a village is 10,000 in the present year, It increases by 15% in the next year, again it increases by 30% in the next year. What will be the total population after 2 years?

$$a + b + \frac{ab}{100}$$

$$15 + 30 + \frac{450}{100}$$

$$\Rightarrow 49.5\% \text{ of } 1,00,000$$

$$49,500$$

$$1,00,000 + 49,500 = 1,49,500$$

The average age of Charan, Vinay and Naveen is 45 the average age of Charan & Vinay is 40 and Vinay and Naveen is 42. Then vinay's age is ?

| | | | |
|----|----|----|-------|
| C | V | N | |
| 45 | 45 | 45 | = 135 |
| 40 | 40 | 55 | ✓ |
| 51 | 42 | 42 | |

$$135 - 106 = 29 \checkmark$$

A train moves from A to B at the speed of 27 km/hr, from B to A at the speed of 54 km/hr, Find the Average speed ?

$$\text{Avg Speed} = \frac{2S_1 S_2}{S_1 + S_2}$$

$$= \frac{2 \times 27 \times 54}{27 + 54}$$

$$= 36 \text{ km/hr}$$

A ———→ B (27)

←——— (54) B

A, B and C together can complete a work in 3 days. B alone can complete in 8 days, A alone can complete in 12 days. In how many days C alone can complete twice of the work?

$$TC = 24cl$$

$$A+B+C \rightarrow 3 \text{ days} \rightarrow (8cl)$$

$$B \rightarrow 8 \text{ days} \rightarrow (3cl)$$

$$A \rightarrow 12 \text{ days} \rightarrow (2cl)$$

$$C \rightarrow (3cl)$$

$$16 \text{ days}$$

$$\begin{array}{r} 16 \\ 48cl \\ \hline 3 \end{array}$$

(TCS- NQ)

Find wrong term in the given series

HPX, GO, PXF, GLW, XFN, OWE

GLW

$$\begin{array}{ccc} 8 & 16 & 24 \\ H & P & X \\ +8 & +8 & \end{array}$$

$$\begin{array}{cc} 7 & 15 \\ G & O \\ +8 & \end{array}$$

$$\begin{array}{ccc} 16 & 24 & 6 \\ P & X & F \\ +8 & +8 & \end{array}$$

$$\begin{array}{ccc} 7 & 12 & 23 \\ G & L & W \\ +5 & & \end{array}$$

$$\begin{array}{ccc} 24 & 6 & 14 \\ X & F & N \\ +8 & +8 & \end{array}$$

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$$\begin{array}{ccccccc} 24+8=32 & & & & & & \\ \frac{26}{E} & \frac{27}{A} & \frac{28}{B} & \frac{29}{C} & \frac{30}{D} & \frac{31}{E} & \frac{32}{F} \end{array}$$

Product of two numbers is 4205. If the first number is 5 times the second number. Find the sum of two numbers?

$$\begin{array}{r} F \\ x \\ 29 \end{array} \quad \begin{array}{r} S \\ 5x \\ 145 \end{array} \quad \begin{array}{r} 29 \times 5 \\ \hline 145 \end{array}$$

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$$\begin{array}{r} 145 \\ 29 \\ \hline 174 \end{array}$$

A boat takes 6hrs to cover 30km distance in downstream, whereas it covers 21km in 7hrs upstream. What is the speed of the boat in still water?

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$S_s = \frac{1}{2}(D - U)$$

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$$\text{Downstream} \rightarrow \frac{30}{6} = 5 \text{ km/hr} \checkmark \quad S_B = \frac{1}{2}(D + U)$$

$$\text{Upstream} \rightarrow \frac{21}{7} = 3 \text{ km/hr} \checkmark \quad = \frac{1}{2}(8) = 4 \text{ km/hr}$$

A sum of money Rs. 3000, invests at 5% p.a in 5 years. Find simple interest?

$$100\% \rightarrow 3000$$

$$25\% \rightarrow ?$$

$$\frac{1}{4} \times 3000 = 750 \checkmark$$

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$$SI = n \times r$$

The ratio of Mean to Median is 3:5. Find the ratio of Mode to Median?

$$\text{Mean} : \text{Median}$$

$$3x : 5x$$

$$\text{Mode} : \text{Median}$$

$$9x : 5x$$

$$9 : 5$$

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$$*** \quad \text{Mode} = 3 \text{ Median} - 2 \text{ Mean}$$

$$= 3 \times 5x - 2 \times 3x$$

$$= 15x - 6x$$

$$\text{Mode} \Rightarrow 9x$$

Find the LCM of 0.3 and 0.77?

$$0.3, 0.77$$

$$\frac{3}{10}, \frac{77}{100}$$

$$3, 77 \times 4$$

$$\frac{21 \times 11}{231}$$

$$\text{LCM} = \frac{\text{LCM for Nx}}{\text{HCF for Dx}} = \frac{\text{LCM}(3, 77)}{\text{HCF}(10, 100)}$$

$$\Rightarrow \frac{231}{10} \Rightarrow 23.1 \checkmark$$

```
import java.util.*;
class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String sentence = sc.nextLine();
        sentence.toLowerCase();
        Set<Character> set = new HashSet<>();
        for(char ch : sentence.toCharArray()){
            if(ch >='a' && ch <='z'){
                set.add(ch);
            }
        }
        StringBuilder sb = new StringBuilder();// to store the
        result
        for(char ch='a';ch<='z';ch++){
            if(!set.contains(ch)){
                sb.append(ch);
            }
        }
    }
}
```

The four boxing wizard starts over the quickly
jmp
=== Code Execution Successful ===

```
19 - if(sb.length() == 0){
20     System.out.println(0);
21 - }else{
22     System.out.println(sb)
23 }
```

A number is 5 times of the other number. If their product is 980 calculate the sum of two numbers?

$$\begin{aligned} & \textcircled{x} \quad \textcircled{5x} \\ & 5x^2 = 980 \\ & x^2 = 196 \\ & x = \sqrt{196} \\ & x = 14 \end{aligned}$$

$$\begin{aligned} & 14, 70 \\ & \Rightarrow 84 \end{aligned}$$

If selling price when 15% loss is 3570, then what should be the selling price for 15% gain ?

$$\begin{aligned} & 85\% \rightarrow 3570 \\ & 115\% \rightarrow x \\ & x = \frac{3570 \times 115}{85} \\ & x = 4830 \end{aligned}$$

Find simple interest on the 3560 at 15% p.a for 5 years?

$$SI = \frac{PTR}{100}$$

$$= \frac{3560 \times 15 \times 5}{100}$$

$$= 2670$$

Percentage Trick (P)

100% → 3560

75% → ?

2670

The income of two persons A and B are in the ratio 3:5 and expenditure are in the ratio 1:2 and their savings are 46000 each. Find the income of B?

Income = Expenditure + Savings

$$I \leftarrow \begin{matrix} A : B \\ 3 : 5 \end{matrix} \times 1$$

$$E \leftarrow \begin{matrix} 1 : 2 \end{matrix} \times 2 \Rightarrow \begin{matrix} 1 : 1 \end{matrix}$$

$$S \leftarrow 1 : 1$$

IP → 46000

SP → ?

46000 × 5

→ 230000

The population of a village is 2,20,000 in the present year, It increases by 10% in the next year, again it increases by 20% in the next year. What will be the total population after 2 years?

Present - 2,20,000

+10% (1 year)

2,42,000

+20%

2,90,400

10 + 20 + $\frac{20 \times 10}{100}$

= 32%

If the average age of A, B & C is 45 years. The average of A & B is 41 years and the average of B & C is 46 years. Find the age of B ?

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$$\begin{array}{ccc} A & B & C \\ 45 & 45 & 45 \Rightarrow 135 \\ 41 & 41 & (53) \Rightarrow 135 \\ (43) & 46 & 46 \\ & 43 & 53 \end{array}$$

$43 + 53 = 96$
 $96 \div 2 = 48$

$A = 43$
 $B = 48$
 $C = 53$



14:44 / 42:18

