320 is how much percentage less than 400?

1. 20%
2. 18%
3. 12%
4. 15%

320 400

80

$\frac{80}{400} \times 100 = 20\%$

exammix

60% of a number is 168, then what is the number?

1. 280 ✓
2. 320 ✗
3. 240 ✗
4. 200 ✗

60% 168

100% ?

$\frac{\cancel{60}^{3}}{\cancel{100}_{5}} \times x = 168$

56

$x = \frac{\cancel{168}}{\cancel{3}} \times 5 = 280$

Chandru Maths

What is the difference between 0.9 and 0.9%?

1. 0.981
2. 0.891
3. 0.198
4. 8.91

$\frac{0.9}{100} = 0.009$

8 9

0.900

0.009

0.891

Chandru Maths

12.5% of A = 55. What is the value of A?

1. 480
2. 500
3. 440
4. 550

$\frac{1}{8} \times A = 55$

$A = 55 \times 8 = 440$

Chandru Maths

If A is 200% more than B, then B is how much percentage less than A?

1. 33.33%
2. 50%
3. 100%
4. 66.67%

$200\% = \frac{200}{100} = \frac{2}{1}$

$\frac{A}{B} = \frac{3}{1}$) 2 $= \frac{2}{3} \times 100$

66.666

$= \frac{200}{3} = 66.66\%$

$66\frac{2}{3}\% = \frac{2}{3}$

66.66

www.exam

A is 20% more than B, which is 25% less than C. Which of the following is true about A and C?

1. A = 0.9C ✓
2. A = 1.1C
3. A = 0.95C
4. A = C

$20\% = 1/5$

$25\% = 1/4$

$\frac{A}{B} = \frac{6}{5}$

$\frac{B}{C} = \frac{3}{4}$

$A:B = 6:5$

$B:C = 3:4$

$A:B:C = 18:15:20$

$\frac{A}{C} = \frac{18}{20} = 0.9$

$\boxed{A = 0.9C}$

Chandru Maths

Manish's salary is half of Ravi's salary. Ravi's salary is how much percentage more than Manish's Salary?

1. 100%
2. 25%
3. 50%
4. 75%

$M = \frac{1}{2} R$

$\frac{M}{R} = \frac{1}{2}$

$= \frac{1}{1} \times 100 = 100\%$

Chandru Maths

Rahul's salary is 40% less than Rakesh's salary. Deepak's salary is 80% more than Rahul's salary. If Deepak's salary is ₹34560, then what is the salary of Rakesh?

1. ₹32000 ✓
2. ₹24000
3. ₹28000
4. ₹26000

$40\% = \frac{2}{5}$ $\quad 80\% = 4/5$

$\frac{Ra}{Rk} = \frac{3}{5}$ $\quad \frac{D}{Ra} = \frac{9}{5}$

A : B
B : C

1280
~~1+520~~
~~34560~~

$25 = \frac{34560}{27} \times 25$

9

$D : Ra = 9 : 5$

$Ra : Rk = 3 : 5$

$D : Ra : Rk = 27 : 15 : 25$

34560 ?

$Rk = 1280 \times 25$

$= 32000$

128
25
640
256
32000

4

Chandru Maths

If 80% of X is 36 more than 60% of Y and 120% of X is equal to Y, then the difference between X and Y is:

1. 80
2. 100
3. 90
4. 60

$x - y = ?$

$y - x = ?$

$\frac{80}{100}x - \frac{60}{100}y = 36$

$8x - 6y = 360 \Rightarrow 40k - 36k = 360$

$5k \quad 6k$

$4k = 360$

90

$\boxed{k = 90}$

6

$\frac{120}{100}x = y$

5

$x/y = \frac{5}{6}\frac{k}{k}$

$x = 5k$

$y = 6k$

Diff $= 6k - 5k = 1k$

Chandru Maths

If $(x+10)\%$ of 200 is $33\frac{1}{3}\%$ more than $x\%$ of 180, then 10% of $(x+20)$ is what percent less than 40% of x?

1. 55
2. 60
3. 70
4. 65 ✓

$33\frac{1}{3}\% = \frac{1}{3}$

$\frac{A}{B} = \frac{4}{3}$

A

$\frac{x+10}{100} \times 200$

B

$\frac{x}{100} \times 180$

$\frac{\frac{x+10}{100} \times 200}{\frac{x}{100} \times 180} = \frac{4}{3}$

$\frac{(x+10)5}{6x} = 1$

$5x + 50 = 6x$

$\boxed{x = 50}$

$= 65$ ✓

$\frac{10}{100} \times 70$ (7)

$\frac{40}{100} \times 50$ (20)

$\frac{13}{20} \times 100$

Chandru Maths

Two numbers are 20% and 40% more than the third number respectively. The ratio of the first and second number is:

1. 5:7
2. 7:5
3. 6:7
4. 7:6

① ② ③

120% of x : 140% of x x

6 7

6:7

Chandru Maths

A student multiplied a number by $\frac{4}{5}$ instead of $\frac{5}{4}$, What is the percentage error in the calculation?

1. 44%
2. 36%
3. 54%
4. 72%

20

$\cancel{20}^{5} \times \frac{5}{\cancel{4}} = 25$

$\cancel{20}^{4} \times \frac{4}{\cancel{5}} = 16$

25 16

$\frac{9}{\cancel{25}} \times \cancel{100}^{4} = 36\%$

Chandru Maths

Which of the following is the greatest among all?

1. 7% discount on marked price ₹500 = 35

2. 10% discount on marked price ₹320 = 32

3. 12% discount on marked price ₹240 = 28.8

4. 8% discount on marked price ₹400 = 32

$\frac{12 \times 24}{10} = 28.8$

$$\begin{array}{r} 240 \\ 48 \\ \hline 288 \end{array}$$

Chandru Maths

If X is 30% less than Y and Z is 50% less than X, then Z is how much percentage less than Y?

1. 75%
2. 65%
3. 80%
4. 95%

$x = \frac{70}{100} \times y$

$x/y = 7/10$

$z = \frac{50}{100} \times x$

$\frac{z}{x} = 1/2$

$z : x = 1 : 2$

$x : y = 7 : 10$

$z : x : y = 7 : 14 : 20$

$\frac{y - z}{y} \times 100 = ?$

$= \frac{20 - 7}{20} \times 100$

$= 13 \times 5 = 65\%$

Chandru Maths

If X is 80% more than Y, then Y is how much percentage less than X?

1. 61.33%
2. 80%
3. 33.33%
4. 44.44%

$x = \frac{180}{100} y$

$x/y = 9/5$

$\frac{x-y}{x} \times 100 = ?$

$\frac{4}{9} \times 100 = \frac{400}{9}$

44.44%

Chandru Maths

A number is first increased by 20% and then reduced by 15%. If the final value is 2040, then what is the initial value of the number?

1. 2100
2. 1800
3. 2000 ✓
4. 1900

$\frac{100}{120} \times \frac{100}{85}$

$\frac{1000}{1020} \xrightarrow{\times 2} 2000 \rightarrow 2040$

$\times 2$

$\begin{array}{r} 85 \\ 12 \\ \hline 170 \\ 85 \\ \hline 1020 \end{array}$

Chandru Maths

A number is first increased by 40% and then it is increased by 30%. What is the net percentage increase?

1. 82%
2. 96%
3. 72%
4. 70%

$40 + 30 + \frac{40 \times 30}{100}$

$70 + 12 = 82\%$

$70 + 12 = 82$

A number is first increased by $16\frac{2}{3}\%$ and then decreased by 15% to get 238. What is 37.5% of that number?

1. 150
2. 75
3. 120
4. 90

$\frac{1}{6}$

12.5×3

$\frac{1}{8}$

$\frac{3}{8} \times 2$

$= \frac{6}{7} \times \frac{\cancel{100}^{20}}{\cancel{85}_{17}} = \frac{120}{119} \xrightarrow{\times 3} 240$

$\xrightarrow{\times 2} 238$

$= \frac{3}{\cancel{8}} \times \cancel{240}^{30} = 90$

Aman's annual income has increased by ₹20 lakhs but the tax on income that he has to pay has reduced from 20% to 16%. He now pays the same amount of tax as earlier. What is his new total income (in ₹ lakhs)?

1. 100
2. 120
3. 80
4. 60

Income tax = Income × Tax rate

$I = \frac{x}{x+20}$ | $T.\text{rate} = \frac{20}{16}$

$1 \quad \frac{100}{100} = \frac{x}{x+20} \times \frac{20}{16}$

$4x + 80 = 5x$

$x = 80$

$x + 20 = 80 + 20 : 100$

Chandru Maths

97. A man's annual income has increased by ₹ 2 lakh but the tax on income that he has to pay has reduced from 25% to 20%. He now pays the same amount of tax as before. What is the increased income (in lakhs) ?

एक व्यक्ति की वार्षिक आय ₹ 2 लाख बढ़ जाती है लेकिन आय पर जो कर लगता था। वह घटकर 25% से 20% हो जाता है। जितना कर वह पहले दे रहा था उतना ही कर वह अभी दे रहा है। बढ़ी हुयी आय ज्ञात कीजिये।

(A) 10 lakh (B) 20 lakh (C) 5 lakh (D) 15 lakh

98. When income of a man increased by ₹ 6 lakhs then tax rate reduced from 18% to 15%. While in both the situation 25% of income is tax free. Then find his present income if he paid equal tax in both cases.

जब एक व्यक्ति की आय ₹ 6 लाख बढ़ जाती है, तो कर की दर घटकर 18% से 15% हो जाती है। दोनों परिस्थितियों में आय का 25% भाग कर मुक्त है, तो वर्तमान आय ज्ञात कीजिये। यदि वह दोनों परिस्थिति में बराबर कर देता है।

(A) 36 lakh (B) 40 lakh (C) 25 lakh (D) 45 lakh

The ratio of boys and girls in a college was 4 : 5. New students got admitted and the number of boys went up by 50% and the number of girls went up by 60%. What is the new ratio of boys and girls in the college?

1. 3 : 5
2. 3 : 4
3. 5 : 8
4. 2 : 3

B : G = 4 : 5

$4 \times 150\% : 5 \times 160\%$

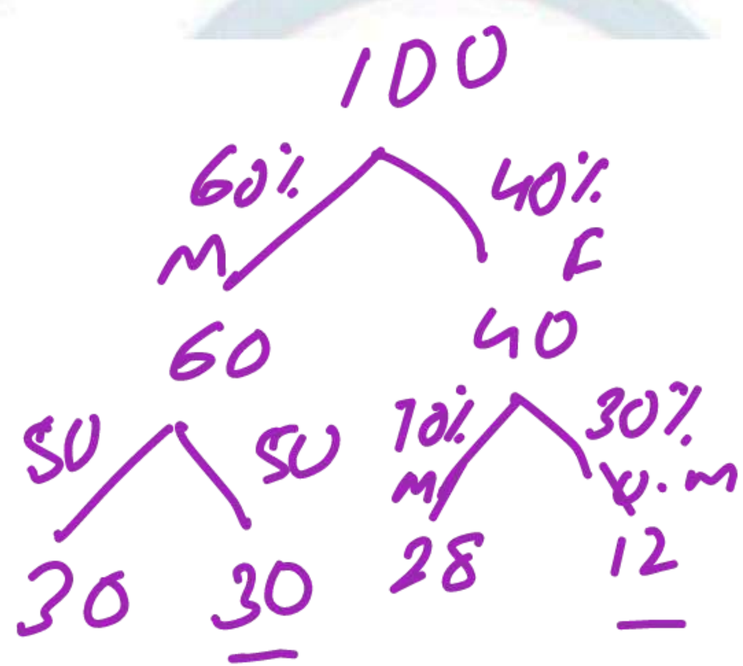
B : G = 3 : 4

www.examp

95. In an office, 40% of the staff is female. 70% of the female staff and 50% of the male staff are married. The percentage of the unmarried staff in the office is?

एक कार्यालय में 40% कर्मचारी महिलाएँ हैं। 70% महिलाएँ व 50% पुरुष कर्मचारी शादीशुदा है। अविवाहित कर्मचारियों का % ज्ञात कीजिये।

(A) 42% (B) 44% (C) 48% (D) None



U.M : 42

U.M% : 42 %

Chandru Maths

96. In a city, 40% of the people are illiterate and 60% are poor. Among the rich 10% are illiterate. The % of the illiterate poor population is ?

किसी शहर में 40% लोग निरक्षर है और 60% लोग निर्धन हैं। समृद्ध लोगों में 10% लोग निरक्षर है। निरक्षर निर्धन लोगों का % बताइए ?

(A) 46% (B) 44% (C) 38% (D) 36%

In an examination, there are 800 boys and 600 girls. 40% boys and 60% girls passed the examination. The percentage (correct to two decimal places) of failed students from the total students is:

1. 52.34%
2. 50.36%
3. 51.43% ✓
4. 53.57%

Total: 800+600 = 1400

B: 800 — 40% P: 320, 60% F: 480

G: 600 — 60% P: 360, 40% F: 240

Total failed stu = 480+240 = 720

B: 800

G: 600

B:G: 8:6

B:G: 4:3

Fail 60% 40%

$$\text{Fail \%} = 40\% + \frac{20\% \times 4 + 0 \times 3}{7} = 40\% + \frac{80}{7}\%$$

$$= 51.4\ldots\%$$

$$\% = \frac{720}{1400} \times 100$$

51. . . .

360

720

11-4 . . . %

Chandru Maths

The ratio of the number of boys and girls in a school is 7: 5. If 65% of the boys and 81% of the girls are scholarship holders, then the percentage of students, who do not get scholarship, is

B : G = 7 : 5

35% 19%

$$\% = 19\% + \frac{\overset{4}{\cancel{16\%}} \times 7}{\underset{3}{\cancel{12}}} = 19\% + \frac{\overset{9\frac{1}{3}\%}{\cancel{28\%}}}{\cancel{3}}$$

$= 28\frac{1}{3}\%$ ✓

Chandru Maths

In an examination, 40% of the students who appeared were boys and rest were girls. The pass percentage of the boys was 60% and overall pass percentage was 56%. What was the pass percentage of the girls?

1. $54\frac{2}{3}$

2. $54\frac{1}{3}$

3. $52\frac{2}{3}$

4. $53\frac{1}{3}$

100 —56%→ 56

40% B → 40

60% G → 60

60% P → 24

40% F → 16

P → 32

$24 + G_p = 56$

$\begin{array}{r} 24 \\ \hline 32 \end{array}$

53.3

$\frac{320}{60} \times 100$

$53\frac{2}{63}$

$53\frac{1}{3}$

Chandru Maths

In a village, 30% of the population is minors, 60% of the minors population are educated, 40% of the majors population are uneducated. The total educated population is 6000. What is the population of the town?

1. 8000
2. 10000 ✓
3. 12000
4. 9000

Total population

100

30% → minor 30

70% → major 70

60% → E 18

40% → U.E 12

60% → E 42

40% → U.E 28

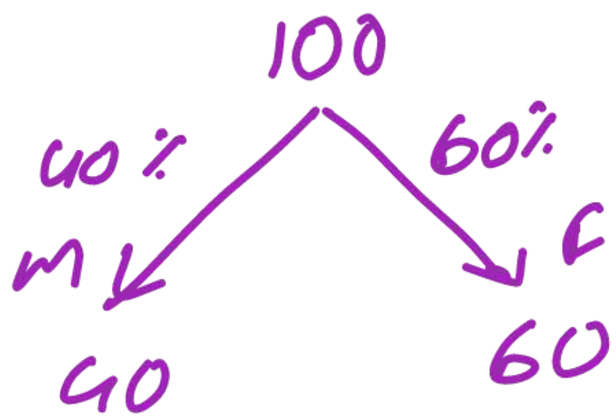
Total educated = 18+42 = 60 $\xrightarrow{\times 100}$ 6000

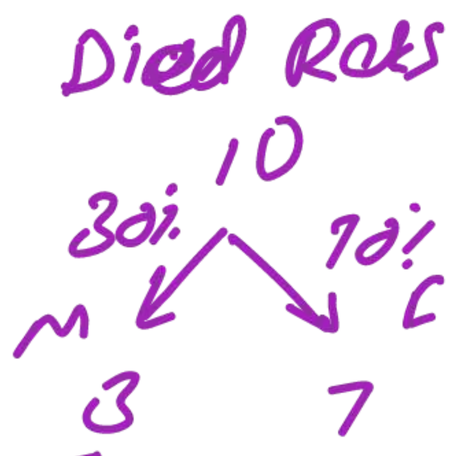
100 ⇒ 10000

Chandru Maths

Sixty percent of the rats included in a particular experiment were female rats. If some of the rats died during the experiment and 30% of rats died were male, what was the ratio of the death rate among the male rats to the death rate among the female rats?

1. 3 : 4
2. 9 : 14
3. 9 : 16
4. 6 : 7





Death rate: $\frac{\text{Total death}}{\text{Total population}}$

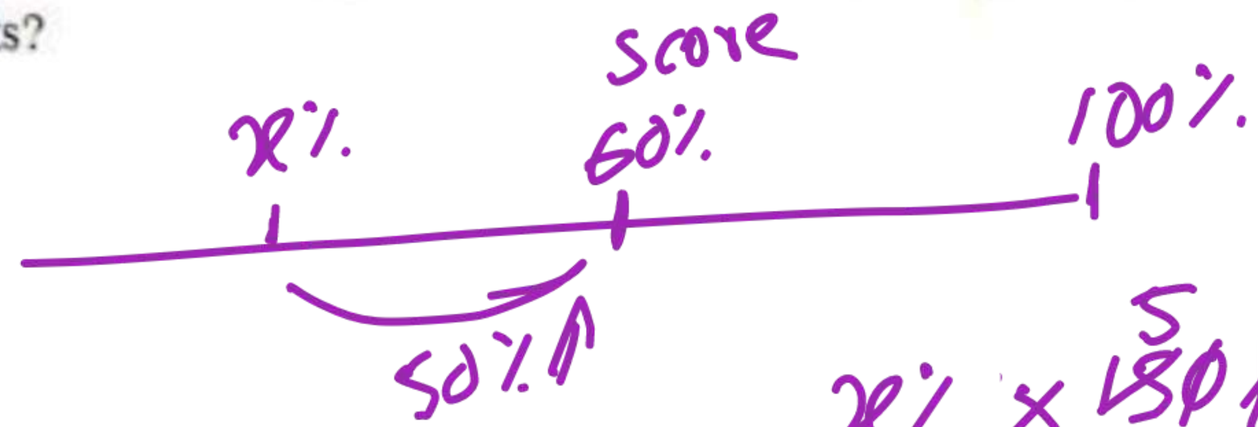
M : F

$\frac{3}{40} : \frac{7}{60} = 9:14$

Chandru Maths

A student gets 60% of the maximum marks. If he gets 50% more than the passing mark, then the passing mark is-what percentage of the maximum marks?

1. 37.5%
2. 50%
3. 40%
4. 75%



$x\% \times 150\% = 60\%$

$\frac{x}{100} = \frac{2}{5}$

$x = \frac{2}{5} \times 100$

$= 40\%$

Chandru Maths

In spite of an increase in price of a commodity by 20%, the overall expenditure on it increases by 12 %. What is the percentage decrease in the quantity of commodity consumed?

1. $7\frac{1}{3}$

2. $7\frac{1}{2}$

3. 8

4. $6\frac{2}{3}$

$E = P \times C.$

$\frac{100}{112} = \frac{100}{120} \times \frac{x}{y}$

$x/y = \frac{120}{112} \downarrow -8$

$= \frac{8}{120} \times 100$

$= \frac{20}{3}$ $6\frac{2}{3}\%$

Chandru Maths

$20\% = \frac{20}{100}$ $\quad 50\% = \frac{50}{100}$ $\quad 100\% = \frac{100}{100} = 1$

$x\% = \frac{x}{100}$ $\quad 2\% = 2/100$

$100\% = 1$ $\quad 50\% = 1/2$ $\quad \frac{\cancel{50}^{1}}{\cancel{100}_{2}} = 1/2.$ $\quad 25\% = 1/4$

$25\% = \frac{\cancel{25}^{1}}{\cancel{100}_{4}}$

$33\frac{1}{3}\% = \left(33 + 1/3\right)\%$

$= \frac{99+1}{3}\% = \frac{\cancel{100}}{3 \times \cancel{100}} = 1/3$

$66\frac{2}{3}\% = \frac{198+2}{3}\%$

$= \frac{2\cancel{00}}{3 \times \cancel{100}} = 2/3$

Chandru Maths

30% of 300

$= \frac{30}{100} \times 300$

$= 90$

40% of 400

$= \frac{40}{100} \times 400$

$= 160$

$7\frac{1}{2}$% of 400

$\frac{15}{2 \times 100} \times 400$

$= 30$

x % of y

$\frac{x}{100} y$

Chandru Maths

22% of 50 = 50% of 22 = 11

$$\frac{22}{100} \times 50 = \frac{50}{100} \times 22$$

$$\frac{22 \times 50}{100} = \frac{50 \times 22}{100}$$

Chandru Maths

22% of 150

$\frac{100}{100} \times 22$

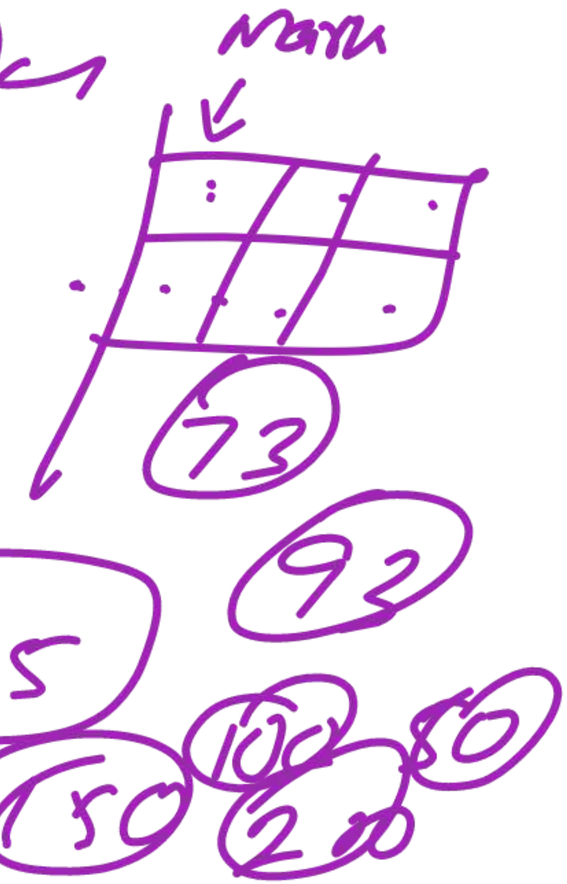
= 150% of 22 = 100% of 22 + 50% of 22

22 + 11 = 33

$\frac{22}{100} \times 150 = 33$

② 31% of 150 = 150% of 31

= 31 + 15.5 = 46.5



Chandru Maths

$100\% = 1$

$9\frac{1}{11}\% = \frac{1}{11} \Rightarrow 9.09\% = \frac{1}{11}$, $18.18\% = \frac{2}{11}$

$27.27\% = \frac{3}{11}$ $81.81\% = \frac{9}{11}$

$50\% = \frac{1}{2}$

$25\% = \frac{1}{4} \xRightarrow{\times 3} 75\% = \frac{3}{4}$

$33\frac{1}{3}\% = \frac{1}{3} \xRightarrow{\times 2} 66\frac{2}{3}\% = \frac{2}{3}$

$33\frac{1}{3}\% = 33.33\% = \frac{1}{3}$

$20\% = \frac{1}{5} \xRightarrow{\times 2} 40\% = \frac{2}{5} \xRightarrow{\times 3} 60\% = \frac{3}{5}$

$16\frac{2}{3}\% = \frac{1}{6} \xRightarrow{\times 5} 83\frac{1}{3}\% = \frac{5}{6}$

$14\frac{2}{3}\% = \frac{1}{7}$

$12.5\% = \frac{1}{8} \xRightarrow{\times 3} 37.5\% = \frac{3}{8} \xRightarrow{\times 5} 62.5\% = \frac{5}{8} \xRightarrow{\times 7} 87.5\% = \frac{7}{8}$

$11\frac{1}{9}\% = \frac{1}{9} \Rightarrow 11.11\% = \frac{1}{9} \Rightarrow 22.22\% = \frac{2}{9}$, $33.33\% = \frac{3}{9}$

$66.66\% = \frac{6}{9} = \frac{2}{3}$

$10\% = \frac{1}{10}$

Chandru Maths

1) A is 20% of B. 2) A is 20% more than B

20 100 120 100

$A = \frac{20}{100} \times B$

$\frac{A}{B} = \frac{20}{100} = 1/5$

$\frac{A}{B} = 1/5$

$\frac{20}{100} \cdot B$ $A = 100 + 20$

$A/B = \frac{120}{100} = 6/5$

$20\% = 1/5 - B$ $\frac{A}{B} = \frac{6}{5}$

3) A is 20% less than B

$\frac{20}{100} - B$ $A = 100 - 20$

$A = 80$

$\frac{A}{B} = \frac{80}{100}$

$\frac{A}{B} = 4/5$

$20\% = 1/5$

$\boxed{\frac{A}{B} = \frac{4}{5}}$

Chandru Maths

A is 30% more than B

$\frac{A}{B} = \frac{13\cancel{0}}{10\cancel{0}} = \frac{13}{10}$ $\quad 30\% = \frac{3}{10}.$ $\quad \frac{A}{B} = \frac{13}{10}$

A is 50% less than B

$\frac{A}{B} = \frac{\cancel{50}^{1}}{\cancel{100}_{2}} = 1/2$ $\quad 50\% = 1/2.$

$$\boxed{\frac{A}{B} = \frac{1}{2}}$$

Chandru Maths

A is 12.5% more than B

1/8

$$\frac{A}{B} = \frac{9}{8}$$

A	B
9	8

A is $16\frac{2}{3}$% less than B

1/6

A	B
5	6

$$\frac{A}{B} = 5/6$$

Chandru Maths

B is 25% more than A. Then A is how much % less than B?

25% = 1/4

A	B
4	5
1	

$\frac{B}{A} = \frac{5}{4}$ ✓

$\frac{A}{B} = 4/5$

how much $\frac{\text{less}}{\text{more}} = \frac{\text{Diff}}{\text{than} \rightarrow \text{value}}$

$= \frac{1}{5} \times 100$

$= 20\%$

Chandru Maths

Change $37\frac{1}{2}\%$ in fraction.

(A) $\frac{3}{8}$ ✓

(B) $\frac{3}{7}$

(C) $\frac{2}{8}$

(D) $\frac{2}{7}$

$\frac{\cancel{75}^{3}}{2\times\cancel{100}_{4}} = 3/8$

12.5

Chandru Maths

Change fraction $\frac{2}{7}$ in percentage.

(A) $28\frac{2}{7}\%$

(B) $28\frac{4}{7}\%$ ✓

(C) $28\frac{3}{7}\%$

(D) $28\frac{5}{7}\%$

$28\frac{4}{7}$

$\frac{2}{7} \times 100\% = \frac{200}{7}\% = 28\frac{4}{7}\%$

$1/4 \Rightarrow \%$ $\quad \frac{1}{4} \times 100\% = 25\% = 25\%$

$1/5 \Rightarrow \%$ $\Rightarrow 1/5 \times 100\% = 20\% = 20\%$

Chandru Maths

If A = 37, B = 185, C = 189 then A is what percentage of B.

$= x\%$

(A) 20%

(B) 22.5%

(C) 25%

(D) $14\frac{2}{7}\%$

$A = x\% \times B$

$37 = \frac{x}{100} \times 185$

$x = \frac{37 \times 100}{185}$ 20%

$x : 20\%$

$\frac{A}{B}\%$

$\frac{37}{185} \times 100$ 20%

Chandru Maths

Find one-fifth of three-eighth of one-third of 11760.

(A) 598

(B) 294

(C) 645

(D) 467

$= \frac{1}{5} \times \frac{3}{8} \times \frac{1}{3} \times 11760$

$\frac{2352}{8}$

294

Chandru Maths

The value of 18% of 15% of $\frac{25}{9}$ of 3800 is:

(A) 285

(B) 582

(C) 583

(D) 385

$$\frac{\cancel{18}^{\cancel{9}}}{\cancel{100}_{\cancel{4}\,\cancel{2}}} \times \frac{15}{\cancel{100}} \times \frac{\cancel{25}}{\cancel{9}} \times \cancel{3800}^{19}$$

15×19

300

285

Chandru Maths

1.14 is obtained as what percentage of 1.9?

(A) 6%

(B) 10%

(C) 60%

(D) 90%

$1.14 = x\% \times 1.9$

$\frac{114}{100} = \frac{x}{100} \times \frac{19}{10}$

$x = 60\%$

$\frac{1.14}{1.9} \times 100$

$\frac{114}{1.9} \times \frac{10}{10}$

$\frac{1140}{19} = 60\%$

Chandru Maths

0.02% of 150% of 600 is :

(A) 0.18

(B) 1.8

(C) 18

(D) 0.018

$\frac{0.02}{100} \times \frac{150}{100} \times 600$

$\frac{2}{100} \times \frac{\overset{3}{\cancel{150}}}{\underset{2}{\cancel{100}}} \times 6 = \frac{18}{100} = 0.18$

$0.068 = \frac{68}{1000} = \frac{68}{10} = 6.8 \quad \frac{68}{100} = 0.68$

Chandru Maths

Find x, if 30% of 400 + x% of 70 = 25% of 536.

(A) 20

(B) 30

(C) 10

(D) 40

$$\frac{30}{100} \times 400 + \frac{x}{100} \times 70 = \frac{25}{100} \times 536$$

$$70x = 25 \times 536 - 30 \times 25 \times 16$$

$$70x = 25(536 - 480)$$

$$x = \frac{25 \times 56}{7} = \frac{200}{10} = 20$$

Chandru Maths

0.25 of x = 30% of y Find $\frac{2x+y}{3x-3y}$ = ?

(A) 5 : 12

(B) 17 : 3

(C) 4 : 13

(D) 12 : 5

$\frac{\cancel{25}^{5}}{\cancel{100}} x = \frac{\cancel{30}^{6}}{\cancel{100}} y$

$x/y = 6/5$

$= \frac{2\times6+5}{3\times6-3\times5}$

$= \frac{12+5}{18-15} = \frac{17}{3}$

Chandru Maths

If m% of m + n% of n = 2% of (m × n) then what percentage of m is n ?

(A) 50%

(B) 75%

(C) 100% ✓

(D) Cannot be determined

$\frac{m}{100} \times m + \frac{n}{100} \times n = \frac{2}{100} \times mn$

$\frac{m^2 + n^2}{100} = \frac{2mn}{100}$

$m^2 + n^2 = 2mn$

$m^2 + n^2 - 2mn = 0$

$(m-n)^2 = 0 \Rightarrow m - n = 0$

$m = n$

$50 \times \frac{x}{100} = 50$

$x = 100\%$

$(a-b)^2 = a^2 + b^2 - 2ab$

Chandru Maths

13% of a number is 16 more than its 5%. Number is-

(A) 200

(B) 250

(C) 300

(D) 400

13% 5%

8% = 16

1% = 2

100% = 200

$\frac{\cancel{16}^{2}}{\cancel{8}} \times 1$

Chandru Maths

What is to be added to 15% of 180 so that the sum is equal to 20% of 360°

(A) 40

(B) 60

(C) 50

(D) 45 ✓

$\frac{15}{100} \times 180 + x = \frac{20}{100} \times 360$

$\frac{\overset{3}{\cancel{15}}}{\cancel{100}} \times \overset{9}{\cancel{180}}$ $\qquad$ $\frac{2\cancel{0}}{\cancel{100}} \times 36\cancel{0}$

$\cancel{2}$

27 $\qquad$ 72

45

Chandru Maths

What % of a day is 30 miuntes ?

(A) 2.83

(B) 2.083 ✓

(C) 2.09

(D) 2.075

24

$\frac{x}{100} \times 24 \times 60 = 30$

40

$x = \frac{25}{12}$ 2.083.

Chandru Maths

If 60% of A = 30% of B, B = 40% of C and C = x% of A, then value of x is.

(A) 800

(B) 500

(C) 200

(D) 300

$\frac{60}{100}A = \frac{30}{100}B$

$B = \frac{40}{100}C$

$C = \frac{x}{100}A$

$\frac{A}{B} = \frac{1}{2}$

$\frac{B}{C} = \frac{2}{5}$

$5 = \frac{x}{100} \times 1$

$\boxed{x = 500}$

$A : B = 1 : 2$

$B : C = 2 : 5$

$A : B : C = 2 : 4 : 10 = 1 : 2 : 5$

A B C

Chandru Maths

If 25% of x = 15% of y, then x : y = ?

x का 25% = y का 15%, तब x : y होगा—

(A) 6 : 7 (B) 4 : 5 (C) 5 : 6 (D) 3 : 5

$x/y = \frac{3}{5}$

16. After spending 69% of her money, a lady is left with ₹ 93. How much had she at first?

69% राशि खर्च करने के बाद एक औरत के पास ₹ 93 शेष बचते है। प्रारम्भ में उसके पास कितनी राशि थी ?

(A) ₹ 300 (B) ₹ 400 (C) ₹ 75 (D) ₹ 150

100% –

69% 31% = 93

100% = ?

$= \frac{\cancel{93}^{3}}{\cancel{31}} \times 100$

= 300

Chandru Maths

. $22\frac{1}{2}\%$ of a number is 45, what per cent of that number is 90?

$22 \times 1/2$ $\quad \frac{44}{2} \times 1/2 = \frac{45}{2}$

किसी संख्या का $22\frac{1}{2}\%$, 45 के बराबर है। 90, उस संख्या का कितना प्रतिशत होगा?

(A) 25% (B) 65% (C) 30% (D) 45%

$\frac{45}{2 \times 100} \times x = 45$

$x = 200$

$\frac{x}{100} \times 200 = 90$

$x = 45\%$

Chandru Maths

35% of a number is 105, what per cent of that number is 100.

किसी संख्या का 35%, 105 है। 100 उस संख्या का कितना प्रतिशत है ?

(A) 40% (B) $37\frac{1}{2}\%$ (C) $33\frac{1}{3}\%$ (D) $33\frac{2}{3}\%$

$\frac{35}{100} \times x = 105$

$x = 300$

$\frac{y}{100} \times x = 100$

$\frac{y}{100} \times 300 = 100$

$y = \frac{100}{3} = 33\frac{1}{3}\%$

Chandru Maths

21. If 64 is added in a number then number becomes 116% of itself. Find the number.

x — x 116% x

यदि किसी संख्या 64 जोड़ दिया जाये, तो वह संख्या स्वंय की 116% हो जाती है। संख्या ज्ञात कीजिए ?

(A) 415 (B) 400 (C) 416 (D) 113

$$x + 64 = \frac{\overset{29}{\cancel{116}}}{\underset{25}{\cancel{100}}} x$$

$$25x + 64 \times 25 = 29x$$

$$64 \times 25 = 29x - 25x$$

$$64 \times 25 = 4x \Rightarrow x = \frac{\overset{16}{\cancel{64}} \times 25}{\cancel{4}}$$

Chandru Maths

x is $\uparrow$ by 5%. $105\%\ x$

$100\%\ x + 5\%\ x = 105\%$ of x

5% $\downarrow$

$100\%\ x - 5\%\ x = 95\%$ of x

$\uparrow$ by 20% $= 120\%\ x$

$\downarrow$ by 35% $= 65\%\ x$

Chandru Maths

25. If the numberator of a fraction is increased by 50% ~~of~~ and its denominator be decreased by 10% the value of fraction becomes 15/16. Find the original fraction.

किसी भिन्न के अंश में 50% की वृद्धि तथा हर में 10% की कमी कर दी जाने पर 15/16 प्राप्त होता है। भिन्न क्या थी ?

(A) $\frac{19}{6}$ (B) $\frac{16}{9}$ (C) $\frac{11}{6}$ (D) $\frac{9}{16}$

$100\%x + 50\%x$

150%

$\frac{x}{y} = ?$

$\frac{150\% \, x}{90\% \, y} = \frac{15}{16}$

$x/y = \frac{9}{16}$

Chandru Maths

26. If the numberator of a fraction is decreased by 20% and denomenator be increased by 40% the value of fraction becomes 16/19. Find the original fraction?

किसी भिन्न संख्या के अंश में 20% की कमी और हर में 40% अधिक कर दें तो भिन्न 16/19 प्राप्त होता है। वह भिन्न क्या थी ?

(A) $\frac{19}{28}$ (B) $\frac{29}{18}$ (C) $\frac{28}{19}$ (D) $\frac{29}{28}$

$x/y = ?$

$$\frac{80x}{140y} = \frac{16}{19}$$

$$x/y = \frac{28}{19}$$

Chandru Maths

If a number is decreased by 25% that number becomes 96. Find the number?

(A) 122

(B) 128

(C) 126

(D) 132

75% of $x = 96$ $\quad x = ?$

$\frac{75}{100} \times x = 96$

$x = 128$

Chandru Maths

When 75 is added to 75% of a number then answer is the number. Find the 40% of number?

(A) 180

(B) 350

(C) 200

(D) 120 ✓

$$75 + \frac{\overset{3}{\cancel{75}}}{\underset{4}{\cancel{100}}} x = x$$

$$\frac{300 + 3x}{4} = x$$

$$300 + 3x = 4x$$

$$\boxed{x = 300}$$

$$\frac{40}{100} x = ?$$

$$\frac{40}{\cancel{100}} \times 3\cancel{00} = 120$$

$$40\% \; x = 120$$

Chandru Maths

A number becomes 98 when increased by $22\frac{1}{2}\%$.

Accodingly, what is the number?

(A) 82

(B) 80

(C) 78

(D) 90

$\frac{45}{2}\%$

$100\% x + \frac{45}{2}\% x = 98$

$\frac{200\% x + 45\% x}{2} = 98$

$\frac{200}{100} x + \frac{45}{100} x = 98 \times 2 \times 100$

$245 x = 98 \times 2 \times 100$

$x = 80$

Chandru Maths

What number should be added to 10% of 320 so that it becomes 30% of 230.

(A) 12

(B) 39

(C) 37

(D) 47

I II

32 69

37

Chandru Maths

225 is obtained when a number is decreased by 25%. How much % increase is to be made to obtain 375.

(A) 25%

(B) 30%

(C) 35%

(D) 75%

100% - 300

75 - 25%

+x%

+75

25%

225

375

$\frac{3}{\cancel{25}} \times x = \cancel{225}$ 75

$x = 300$

Chandru Maths

If a number is increased by 25% and then decrease the obtained number by 25% then what is the final % increase or decrease?

(A) $\frac{25}{4}\%$

(B) 12%

(C) $5\frac{1}{4}\%$

(D) 6%

Chandru Maths

A is 16.66% less than B. If value of A is 500, then what is the value of B?

(A) 583.33

(B) 566.66

(C) 600

(D) 620

$0.66 = 2/3 \quad 0.33 = 1/3$

$16.66\% = 16\,2/3\% = 1/6$

$\frac{A}{B} = \frac{5}{6} \xrightarrow{\times 100} 500$

$\xrightarrow{\times 100} 600$

$5 \rightarrow 500$

$6 \rightarrow ? = \frac{500}{5} \times 6$

Chandru Maths

P is 20% more than Q and 40% less than R. If value of Q is Rs 150, then what is the value of R (in Rs)?

(A) 300

(B) 320

(C) 220

(D) 250

$20\% = 1/5$ $\quad$ $40\% = 2/5$

$\frac{P}{Q} = \frac{6}{5}$ $\quad$ $\frac{P}{R} = \frac{3}{5}$

$Q : P = 5 : 6$

$P : R = 3 : 5$

$Q : P : R = 15 : 18 : 30$

$\downarrow$ 150 $\quad$ $\downarrow$ 300

Chandru Maths

X is 30% more than Y and 25% less than Z. If value of Y is Rs 300, then what is the value (in Rs) of Z ?

(A) 390

(B) 400

(C) 470

(D) 520

$30\% = 3/10$ $25\% = 1/4$

$x/y = \frac{13}{10}$ $x/z = \frac{3}{4}$

$y : x = 10 : 13$

$x : z = 3 : 4$

$y : x : z = 30 : 39 : 52$

$10\times \downarrow$ $\downarrow \times 10$

300 520

$30 \rightarrow 300$

$52 \rightarrow ?$

$\frac{300}{30} \times 52$

520

Chandru Maths

The difference between a number and one-third of that number is 228. What is 20% of that number ?

(A) 68.4

(B) 58.9

(C) 61.8

(D) 72.5

$x - \frac{1}{3}x = 228$

$3x - x = 228 \times 3$

$2x = \cancel{228}^{114} \times 3$

$\frac{20}{100} \times x = ?$

$\frac{\cancel{20}}{\cancel{100}_{5}} \times 114 \times 3 =$

68.4

$= \frac{342}{5}$

Chandru Maths

If 40% of a number is less than its 60% by 30, then the 20% of that number is :

(A) 60

(B) 40

(C) 50

(D) 30

$\frac{40}{100} \times x$ $\quad \frac{60}{100} \times x$ $\quad \frac{20}{100} \times x = ?$

$\frac{6x}{10} - \frac{4x}{10} = 30$ $\quad \frac{20}{100} \times 150 = 30$

$2x = 300$

Chandru Maths

1) 20% ↑ 30% ↑ 50% ↑ ×

$$100 \xrightarrow{20\% \uparrow} 120 \xrightarrow{30\% \uparrow} 156$$

56% ↑

a% ↑ b% ↑

$$a+b+\frac{ab}{100} = 20+30+\frac{20\times 30}{100}$$

$$= 50+6 = 56\% \uparrow$$

$$\frac{120\times 30}{100}$$

36

$$\begin{array}{r} 120 \\ \hline 156 \end{array}$$

↑ +

↓ −

Chandru Maths

20% ↑ 30% ↓

$$100 \xrightarrow[+20]{20\%\uparrow} 120 \xrightarrow[-36]{30\%\downarrow} 84$$

$-16\% \downarrow$

36

$+ \times + = +$

$- \times + = -$

$+ \times - = -$

$- \times - = +$

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

$$20 - 30 - \frac{\overset{+}{20} \times \overset{-}{30}}{100} = -10 - 6 = -16 \quad = 16\% \downarrow$$

Chandru Maths

1) 20% ↑, 30% ↑

$$\frac{S}{E} = \frac{100}{120} \times \frac{100}{130} = \frac{100}{156} \downarrow +56\% \uparrow$$

2) 20% ↑, 30% ↓

$$= \frac{100}{120} \times \frac{100}{70} = \frac{100}{84} \downarrow -16\% \downarrow$$

3) 20% ↓, 30% ↑

$$= \frac{100}{80} \times \frac{100}{130}$$

$$= \frac{100}{104} \downarrow 4\% \uparrow$$

4) 20% ↓, 30% ↓

$$= \frac{100}{80} \times \frac{100}{70} = \frac{100}{56} \downarrow -44\% \downarrow$$

$$= -20 - 30 + \frac{20 \times 30}{100}$$

$$= -50 + 6 = -44\% \downarrow$$

Chandru Maths

20% ↑ 30% ↓ 25% ↑ 40% ↓

1/5 3/10 1/4 2/5 →

$$= \frac{100}{120} \times \frac{100}{70} \times \frac{100}{125} \times \frac{100}{60} = \frac{100}{3 \times 7 \times 3} = \frac{100}{63}$$

1000

↓ -37% ↓

→ 630

$$② = \frac{5}{6} \times \frac{10}{7} \times \frac{4}{5} \times \frac{5}{3} = \frac{100}{63}$$

→ 1000

→ 630

Chandru Maths

Successive discounts of 15% and 20% is equal to what % of single discount?

$\frac{3}{20}$ ↓ $\frac{1}{5}$ ↓

(A) 32% ✓

(B) 28%

(C) 19%

(D) 20%

$= -15 - 20 + \frac{15 \times 20}{100}$

$= -35 + \frac{300}{100} = -32\%$ ↓

$= \frac{100}{85} \times \frac{100}{80} = \frac{100}{68}$ ↓ -32% 32% (DU)

Chandru Maths

A discount series of 15%, 20% and 25% is equal to the single discount of ?

(A) 48%

(B) 49%

(C) 50%

(D) 51%

$$= \frac{100}{\cancel{85}_{17}} \times \frac{\cancel{100}^{\cancel{5}}}{\cancel{80}_{2}} \times \frac{\cancel{100}^{\cancel{5}}}{\cancel{75}_{3}} = \frac{100}{51} \Rightarrow 49\%$$

Chandru Maths

Two consecutive discounts x% and y% is equivalent to the discount %—

(A) $\left(x - y + \frac{xy}{100}\right)\%$

(B) $\left(x + y + \frac{xy}{100}\right)\%$

(C) $\left(x - y - \frac{xy}{100}\right)\%$

(D) $\left(x + y - \frac{xy}{100}\right)\%$ ✓

$-x - y + \frac{xy}{100}$

$-x - y + \frac{xy}{100}$

$-\left[x + y - \frac{xy}{100}\right]$ %.

Chandru Maths

If length of a rectangle is increased by 10% and breadth is decreased by 10%, then its area will be –

(A) Decrease 2%/

(B) Increase 1%/

(C) Increase 2%/

(D) Decrease 1%/

$A = l \times b$

$\frac{22}{10} = \frac{100}{110} \times \frac{100}{90} = \frac{100}{99}$ ↓ -1

1% ↓

$10 - 10 - \frac{10 \times 10}{100}$

$0 - 1 = -1$ 1% ↓

Chandru Maths

If the radius of the base of a right circular cylinder is increased by 20% and the height is decreased by 30%, then what is the percentage increase/decrease in the volume?

(A) Increase 2%/ 2

(B) Decrease 2%/

(C) Increase 0.8%/

(D) Decrease 0.8%

$V = \pi r^2 h$

$\pi \cdot r \times r$

$\frac{x}{y} = \frac{100}{120} \times \frac{100}{120} \times \frac{100}{70}$

100.8

$5 \overline{)504}$

5

040

40

0

$x/y = \frac{100}{100.8}$

100.81

Chandru Maths

If each side of a rectangle is decreased by 11% then its area will decrease by :

(A) 24.31%

(B) 25%

(C) 21.13%

(D) 20.79%

$A = l \times b$

$\frac{x}{y} = \frac{100}{89} \times \frac{100}{89}$

$= \frac{100 \times 100}{7921}$

$= \frac{100}{7921}$

$-11 - 11 + \frac{11 \times 11}{100}$

$-22 + \frac{121}{100} = 20.79\%$

$$\begin{array}{r} 89 \\ 89 \\ \hline 801 \\ 712 \\ \hline 7921 \end{array}$$

8

7

20.79%

Chandru Maths

If a number is increased by 25% and then decrease the obtained number by 25% then what is the final % increase or decrease?

$x\uparrow$ $x\downarrow$

(A) $\frac{25}{4}\%$ 6.25%

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

$\frac{x\times 2}{100}\downarrow$

(B) 12%

$+$ $-$

(C) $5\frac{1}{4}\%$

$= 25 - 25 - \frac{25\times 25}{100} = -\frac{625}{100} = -6.25\%\downarrow$

(D) 6%

Chandru Maths

Expenditure = Price × consumption

$$E = P \times C$$

E → ఖర్చు, P → ధర, C → Qty

$$A = l \times b$$

Chandru Maths

The price of sugar is increased by $33\frac{1}{3}\%$. If the expenditure should not be increased for a housewife, she will have to reduce his consumption of sugar by the percentage -

$\rightarrow 1/3$

$E = P \times C$

(A) 30%

(B) 40%

(C) 25% ✓

(D) 60%

$\frac{100}{100} = \frac{3}{4} \times x/y$

$x/y = 4/3$

$\frac{1}{4} \times 100$

25%

Chandru Maths

The price of pome granates is decreased by $16\frac{2}{3}\%$. By how much percent must a customer increase his consumption so that his expenditure remains the same?

(A) 20%

(B) 22%

(C) 26%

(D) 24%

$E = P \times C$

$16\frac{2}{3}\% = \frac{1}{6}$

$P - \frac{6}{5}$ $\quad C \to \frac{5}{6} \downarrow +1$

$\% = \frac{1}{5} \times 100\%$

Chandru Maths

The length of a rectangle is increased by 60%. By how much percent must its breadth reduced so that the area remains same?

(A) 40%

(B) 22.5%

(C) 37.5%

(D) 25%

$l = 60\% \uparrow \quad b \downarrow$

A no change

$A = l \times b$

$\frac{100}{160} = 5/8$

$5/8 \quad 2 - 3$

$\frac{3}{8} \times 100 = \frac{75}{2} = 37.5\% \downarrow$

Chandru Maths

The price of petrol is increased by $14\frac{2}{7}\%$. If the expenditure should not be increased for a students, she will have to reduce his consumption of petrol by the percentage -

(A) 30%

(B) 40%

(C) 12.5%

(D) 60%

Chandru Maths

If the price of milk increases from Rs 60/kg to Rs 70/kg, then by what percentage a person should decrease the consumption of milk so that expenditure remains same?

(A) 16.66

(B) 14.28 %

(C) 12.33

(D) 17.33

P 60/70 C ↓

E = P × C

↑ ↑

6/7 × 7/6

C → 7/6 ↓ -1 1/7 × 100 14.

Chandru Maths

The price of sugar has decreased by 15%. By what percentage can a person increase the consumption so that there is no change in the expenditure?

(A) $\frac{300}{23}\%$

(B) $\frac{300}{17}\%$

(C) $\frac{50}{3}\%$

(D) $\frac{20}{3}\%$

Chandru Maths

The price of sugar is decreased by 10%. By what percent can a person increase the consumption so that there is no change in the expenditure?

(A) $\frac{100}{11}\%$

(B) $\frac{109}{11}\%$

(C) $\frac{100}{9}\%$

(D) 10%

Chandru Maths

Rice is now being sold at ₹ 29 per kg. During the last month, its cost was ₹ 25 per kg. By how much percentage should a family reduce its consumption, so as to keep the expenditure the same as before? **(CPO 2020)**
(correct to nearest integer)

(A) 15%
(B) 12%
(C) 13%
(D) 14%

P- $\frac{25}{29}$ C- ↓

$C = \frac{29}{25}$ 2-4 $\frac{4}{29} \times 100 = \frac{400}{29}$

29 | 400 | 13-1
29
110
87
230

13.7---
6 ? 8.

~ 14%

Chandru Maths

If the price of tea is increased by 25%. By how much kg. of consumption is decreased. So that the expenditure of month will be constant. When his original use is 25 kg.

(A) 5

(B) 6

(C) 7

(D) 8

$E = P \times C$

$\frac{100}{100} = \frac{100}{125} \times \frac{25}{x}$

$x = 20$

C $\frac{25\text{kg}}{20\text{ kg}}$ 5kg↓

Chandru Maths

Due to a price hike of 20%, 4 kg less sugar is available for 120 . What is the initial price per kg of sugar ?

(A) ₹ 5 / kg ✓

(B) ₹ 4 / kg

(C) ₹ 6 / kg

(D) ₹ 5.5 / kg

P → 20% ↑

E = 120 / 120

C = x kg / (x − 4) kg

E = P × C

120/120 = 5 Rs/kg / 120 × x / (x − 4)

6(x − 4) = 5x ⇒ 6x − 24 = 5x

6x − 5x = 24

x = 24 kg

24 kg / 120 kg

120 / ?

120/24 × 1

Chandru Maths

A reduction of 20% in the price of sugar enables a purchaser to obtain 8 kg more for ₹ 160. Then the price per kg before reduction was

(A) ₹ 10

(B) ₹ 4

(C) ₹ 5

(D) ₹ 6

Chandru Maths

By reduction in price of tea by 10%, a trader can buy 25 kg more in ₹ 22,500. What is the reduced price of tea ?

(A) ₹ 100

(B) ₹ 90

(C) ₹ 72

(D) ₹ 82

Chandru Maths

By reduction in price of an apple by 20%, a man can buy 10 apples more in ₹ 54. Accordingly, what is the reduced price of apples per dozen ?

(A) ₹ 4.32

(B) ₹ 12.96

(C) ₹ 10.80

(D) ₹ 14.40

Chandru Maths

By reduction in price of rice by 25%, a man can buy 10 kg more rice in ₹ 600. What is the reduced price of rice?

(A) ₹ 20

(B) ₹ 15

(C) ₹ 25

(D) ₹ 10

Chandru Maths

The price of rice is increased by 20%. Due to this, a family uses rice 40 kg less. So that the expenditure increases by 5% only. Find original consumption?

(A) 326 kg

(B) 320 kg

(C) 350 kg

(D) 300 kg

Chandru Maths

The price of sugar is increased by 40%. Due to this a family use 20 kg less sugar. So that expenditure will decrease by 10%. Find present consumption ?

(A) 40 kg

(B) 45 kg

(C) 36 kg

(D) 55 kg

Chandru Maths

The price of sugar is increase by 26%. By how much kg. of consumption is decrease so as expenditure will increase by 12% only. When he originally consume 135 kg sugar.

(A) 18 kg

(B) 16 kg

(C) 15 kg

(D) 12 kg

Chandru Maths

The price of diesel increased by 16%. A person wants to increase his expenditure on diesel by 10% only. By what percentage, correct to one decimal place, should he reduce his consumption ?

(A) 6.5%

(B) 5.2%

(C) 4.5%

(D) 3.7%

Chandru Maths

Water tax is increased by 20% but its consumption is decreased by 20%. Then the increase or decrease in the expenditure on the water is.

(A) 4% increase/

(B) 5% decrease/

(C) 4% decrease/

(D) No change/

Chandru Maths

A man wills 40% of his wealth to his wife and rest to his children. What percent of the wealth willed to the wife do the children get?

(A) 150

(B) 66.6

(C) 50

(D) 20

Chandru Maths

A person spent $\frac{1}{4}$ of his income on food, $\frac{2}{3}$ part on rent of house and remaining ₹ 630 on other things. His house rent is–

(A) ₹ 5040

(B) ₹ 3520

(C) ₹ 4890

(D) ₹ 4458

Chandru Maths

A man spend $7\frac{1}{2}\%$ of his money. After spending 75% of the remaining, he had ₹ 370 left. How much money did he have initially?

(A) 1200
(B) 1600
(C) 1500
(D) 1400

Chandru Maths

Amit donated 20% of his income to a school and deposited 20% of the remainder in his bank. If he is having Rs 12800 now, then what is the income (in Rs) of Amit?

(A) 18000

(B) 20000

(C) 24000

(D) 32000

Chandru Maths

Out of the shirts produced in a factory, 15% are defective, while 20% of the rest are sold in the domestic market. If the remaining 8840 shirts are left for export, then the number of shirts produced in the factory is

(A) 13600

(B) 13000

(C) 13400

(D) 14000

Chandru Maths

Ram gives 4% of income as charity and deposits 10% of remaining income in bank. If he left with ₹ 8640. Then what is his income?

(A) ₹ 10,200

(B) ₹ 9800

(C) ₹ 9700

(D) ₹ 10,000

Chandru Maths

A man donates 30% of his wealth to charity. 30% and 25% of the remaining wealth to his wife and son respectively. The rest he divides equally between his three daughters. One of his daughter gets Rs 42 lakh as her share. What was the man's wealth (in Rs lakhs)?

(A) 280
(B) 400
(C) 500
(D) 350

Chandru Maths

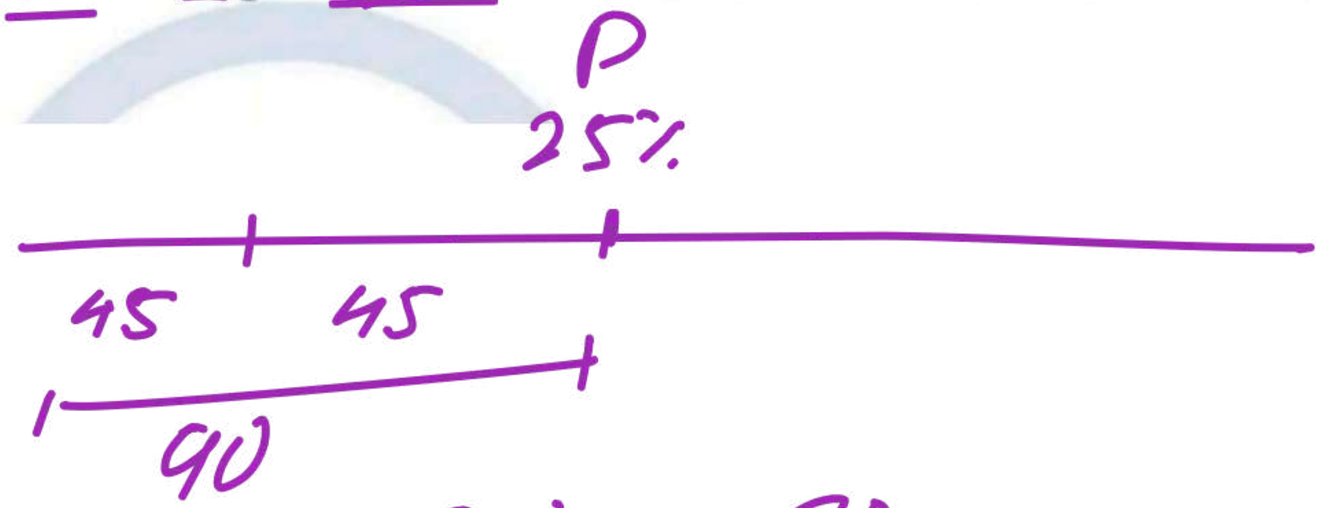
An engineering student has to secure 25% marks to pass. He gets 45 and fails by 45 marks. Find the maximum marks?

(A) 385marks

(B) 410marks

(C) 435marks

(D) 360marks



$25\% = 90$

$100\% = \frac{90}{\cancel{25\%}} \times \cancel{100\%}^{4} = 360$

Chandru Maths

An engineering student has to secure 45% marks to pass. He gets 54 and fails by 36 marks. Find the maximum marks.

(A) 200 marks

(B) 225 marks

(C) 250 marks

(D) 275 marks

45% = 90

×2

100% = 200

×2

Chandru Maths

A candidate required to secure 40% marks in order to pass an examination. If a candidate who secured 220 marks got failed by 20 marks, then what was the maximum marks of examination?

(A) 1200

(B) 800

(C) 600

(D) 450

40%

220 20

240

40% $\xrightarrow{\times 6}$ 240

100% $\xrightarrow{\times 6}$ 600

Chandru Maths

40% are the passing marks. A student gets 250 marks yet fails by 38 marks. What is the maximum marks?

(A) 720

(B) 750

(C) 800

(D) 840

40% = 250 + 38

40% → 288

$$100\% = \frac{\cancel{288}^{72}}{\cancel{40\%}} \times \cancel{100\%} = 720$$

Chandru Maths

In an examination, Anita scored 31% marks and failed by 16 marks. Sunita scored 40% marks and obtained 56 makrs more than those required to pass. Find the minimum marks required to pass. **(CGL (Pre)—2019)**

(A) 3116

(B) 264

(C) 3944

(D) 7100

Pass mark : x

$31\% = x - 16$

$40\% = x + 56$

$9\% = 72$

$40\% = \frac{72}{9} \times 40\% = 320$

$(x+56) - (x-16)$

$\cancel{x} + 56 - \cancel{x} + 16$

$320 = x + 56$

$x = 320 - 56 = 264$

Chandru Maths

Diff

31% → 16 F

40% → 56 P

9% → 72 8

31% → $\frac{72}{9\%} \times 31\%$ = 248

16

264 cl

F - F = − = L - L

P - P = − = M - M

P - F = + = M - L

Chandru Maths

In an examination, a candidate secures 30% marks and failed by 6 marks. Another candidate secures 40% marks and get 6 marks more than minimum passing marks what is the maximum marks in the examination?

(A) 150

(B) 120

(C) 100

(D) 190

30% → 6 F

40% → 6 P

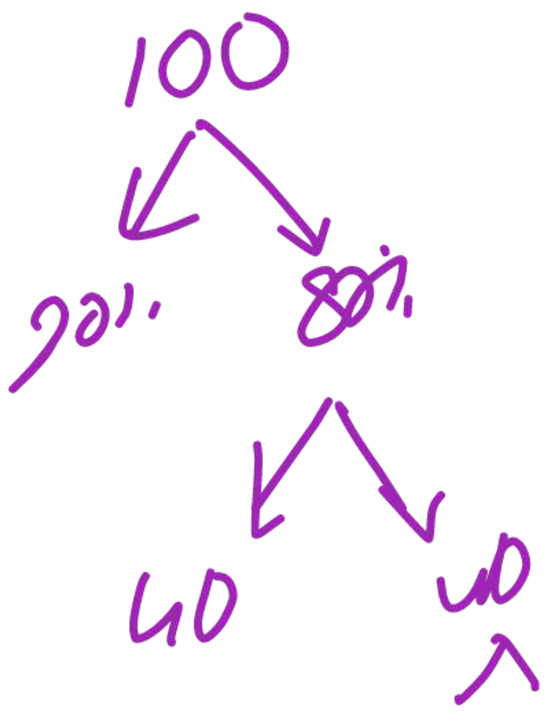
10% → 12

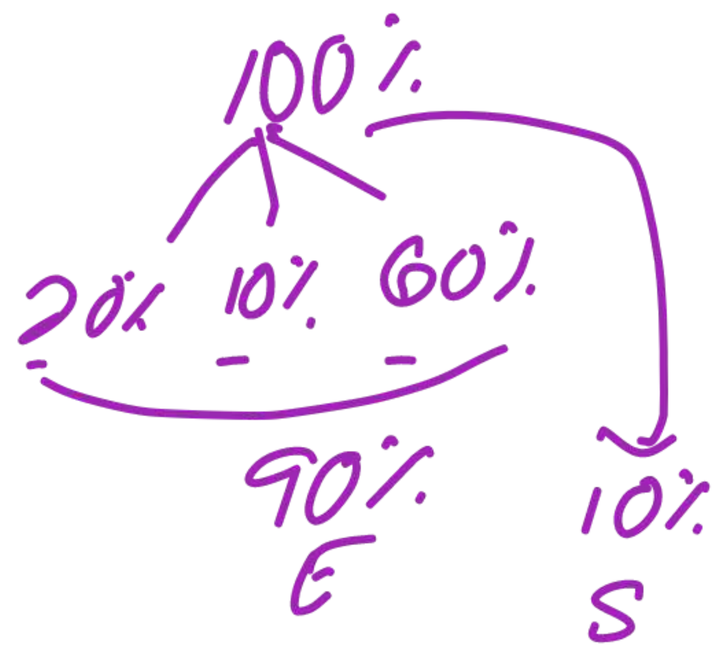
100% → 120

Chandru Maths

Income = Expenditure + savings

வருமானம் செலவு சேமிப்பு





10% = 30

100% = 300

Chandru Maths

1. A saves 20% of his monthly salary. If his monthly expenditure is ₹ 6000, then his monthly savings is:

(a) Rs. 1,500 (b) Rs. 1,800

(c) Rs. 1,200 (d) Rs. 4,800

$I = E + S$

$100\% = 80\% + 20\%$

$80\% \rightarrow 6000$

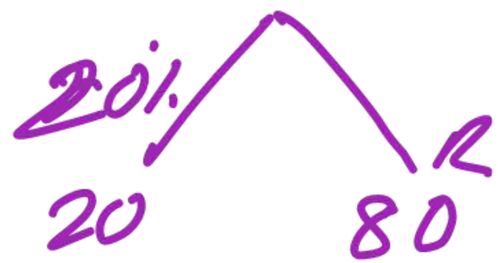
$20\% \rightarrow \frac{6000}{80\%} \times 20\% = 1500$

1500

Chandru Maths

A person spends 20% of his income on food, 50% of remaining in travelling, 50% of remaining on education, He saves Rs. 2000. I.?

$100 \xrightarrow{\times 100} 10{,}000$



$\xrightarrow{\times 100} 2000$

$\frac{100}{\cancel{80}_{20}} \times \frac{\cancel{100}}{\cancel{80}} \times \frac{\cancel{100}}{\cancel{80}}$

$= \frac{100}{20} \rightarrow 10000 \rightarrow 2000$

Chandru Maths

In an office, 40% of the staff is female. 70% of the female staff and 50% of the male staff are married. The percentage of the unmarried staff in the office is

(a) 65% (b) 42%

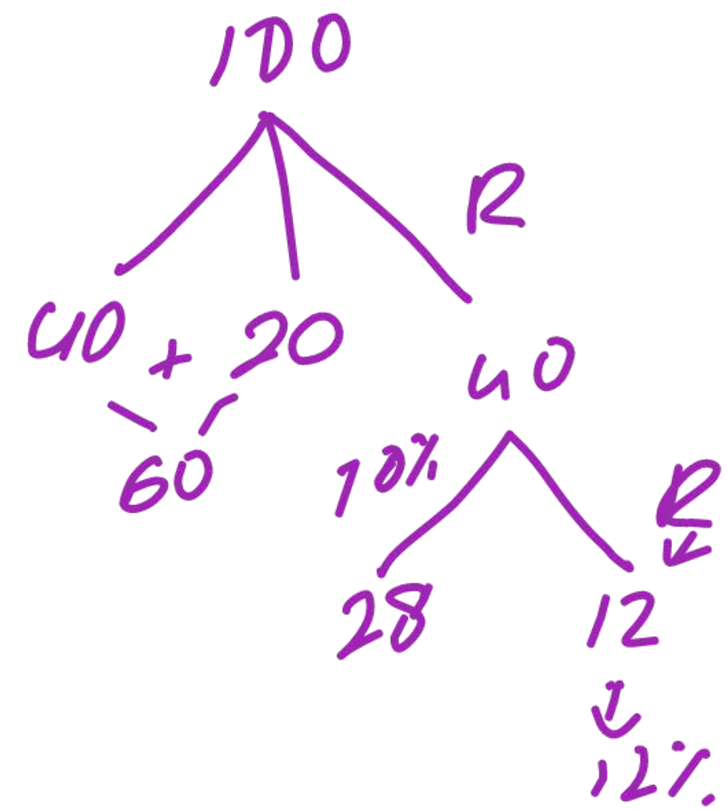
(c) 60% (d) 64%

Chandru Maths

If a person spends 40% of his income on food, 20% on house rent and 70% of the remaining on children's education, then the percentage of his income left is

(a) 6% (b) 8%

(c) 10% (d) 12%



$\frac{100}{40} \times \frac{180}{30} = \frac{100}{12} \rightarrow 12\%$

Chandru Maths

The ratio of the number of boys and girls in school is 8 : 12. If 50% of boys and 25% of girls are getting scholarships for their studies, what is the percentage of school students who are not getting any scholarships ?

(a) 65% (b) 66%

(c) 67% (d) 68%

B : G

2 : 3

50% 75%

15%

$= 50\% + \frac{25\% \times 3}{5}$

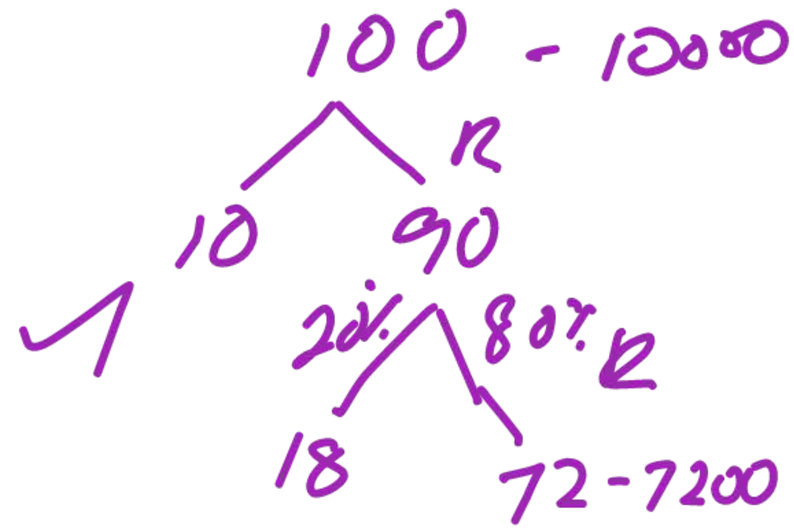
$= 50\% + 15\% = 65\%$

Chandru Maths

Christy donated 10% of his income to an orphange and deposited 20% of the remainder in his bank. If he has now ₹ 7200 left, what is his income.

(a) ₹ 10000 (b) ₹ 8000

(c) ₹ 9000 (d) ₹ 8500



$$\frac{100}{90} \times \frac{100}{80} = \frac{100}{72} \rightarrow 10000 \rightarrow 7200$$

Chandru Maths

A man spends a part of his monthly income and saves the rest. The ratio of his expenditure to the saving is 61 : 6. If his monthly income is Rs. 8710, the amount of his monthly saving is

(a) Rs. 870 (b) Rs. 690

(c) Rs. 980 (d) Rs. 780 ✓

$I = E + S$

$67 = 61 + 6$

$8710 \qquad ?$

130

$6 = \frac{8710}{67} \times 6$

$= 780$

$E : S = 61 : 6$

Chandru Maths

A person loses 75% of his money in the first bet, 75% of the remaining in the second and 75% of the remaining in the third bet and returns home with Rs. 2 only. His initial money was

(a) Rs. 64 (b) Rs. 128

(c) Rs. 256 (d) Rs. 945

$$\frac{100}{25} \times \frac{100}{25} \times \frac{100}{25}$$

$$= \frac{64}{1} \xrightarrow{\times 2} 128$$

$$\xrightarrow[\times 2]{} 2$$

Chandru Maths

A man spends 15% of his income. If his expenditure is ₹ 75, his income (in rupees) is:

(a) 400 (b) 300

(c) 750 (d) 500

$I = E + S$

$100 = 85 \quad 15$

$\frac{75}{85} \times 100$

17

Chandru Maths

A man spends 75% of his income. His income increases by 20% and his expenditure also increases by 10% . Find the percentage incerase in his savings.

(a) 25% (b) 50%

(c) 15% (d) 10%

$I = E + S$

$4 = 3 + 1$

$4 \times 20\% = 3 \times 10\% + 1 \times x\%$

$80\% = 30\% + x\%$

$x\% = 80\% - 30\%$

$= 50\%$

$\frac{E}{I} = \frac{75}{100}$ 3 4

$E/I = 3/4$

$4 \times 20\% = 3 \times 10\% + x\%$

$80\% = 30\% + x\% = 110\% \uparrow$

Chandru Maths

A person spends 75% of his income. His income increases by 60% and his expenditure increases by 70%. By how much percent of his saving will increase or decrease?

$\frac{E}{I} = \frac{\cancel{75}^{3}}{\cancel{100}_{4}} = \frac{3}{4}$

$I = E + S$

$4 = 3 + 1$

$4 \times 60\% = 3 \times 70\% + x\%$

$240\% = 210\% + x\%$

$x\% = 30\% \uparrow$

Chandru Maths

A person spends 87.5% of his income. His income increases by 59% and expenditure increases by 67%. Find increase or decrease in savings percentage.

$7/8$

$8 = 7+1$

A person saves 6% of income. After 2 years his income is increased by 15% but his savings remain the same. Find the percentage increase in his expenditure.

$\frac{S}{I} = \frac{6}{100} = 3/50$

$I = E + S$

$50 = 47 + 3$

$50 \times 15\% = 47 \times x\% + \cancel{3 \times 0}$

$x\% = \frac{50 \times 15\%}{47} = 15.9\ldots$

Chandru Maths

Ratio of Rama's expenditure and saving is 5 : 3. If his income is increased by 12% and expenditure is increased by 15%, find his savings increase.

$E : S = 5 : 3$

$I = E + S$

$8 = 5 + 3$

$8 \times 12\% = 5 \times 15\% + 3 \times x\%$

$96\% - 75\% = 3x\%$

$x\% = \frac{21}{3}\% = 7\%$

Chandru Maths