



SINCE 2013
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Percentage









Denominator	Fractions and Percentages
2	$\frac{1}{2} = 50\%$
3	$\frac{1}{3} = 33.33\%$, $\frac{2}{3} = 66.66\%$
4	$\frac{1}{4} = 25\%$, $\frac{2}{4} = 50\%$, $\frac{3}{4} = 75\%$
5	$\frac{1}{5} = 20\%$, $\frac{2}{5} = 40\%$, $\frac{3}{5} = 60\%$, $\frac{4}{5} = 80\%$
6	$\frac{1}{6} = 16.66\%$, $\frac{2}{6} = 33.33\%$, $\frac{3}{6} = 50\%$, $\frac{4}{6} = 66.66\%$, $\frac{5}{6} = 83.33\%$
7	$\frac{1}{7} = 14.28\%$, $\frac{2}{7} = 28.57\%$, $\frac{3}{7} = 42.85\%$, $\frac{4}{7} = 57.14\%$, $\frac{5}{7} = 71.42\%$, $\frac{6}{7} = 85.71\%$

$$\begin{aligned} 8 \quad \frac{1}{8} &= 12.5\%, \quad \frac{2}{8} = 25\%, \\ \frac{3}{8} &= 37.5\%, \quad \frac{4}{8} = 50\%, \\ \frac{5}{8} &= 62.5\%, \quad \frac{6}{8} = 75\%, \\ \frac{7}{8} &= 87.5\% \end{aligned}$$

$$\begin{aligned} 9 \quad \frac{1}{9} &= 11.11\%, \quad \frac{2}{9} = 22.22\%, \\ \frac{3}{9} &= 33.33\%, \quad \frac{4}{9} = 44.44\%, \\ \frac{5}{9} &= 55.55\%, \quad \frac{6}{9} = 66.66\%, \\ \frac{7}{9} &= 77.77\%, \quad \frac{8}{9} = 88.88\% \end{aligned}$$

$$\begin{aligned} 11 \quad \frac{1}{11} &= 9.09\%, \quad \frac{2}{11} = 18.18\%, \\ \frac{3}{11} &= 27.27\%, \quad \frac{4}{11} = 36.36\%, \\ \frac{5}{11} &= 45.45\%, \quad \frac{6}{11} = 54.54\%, \\ \frac{7}{11} &= 63.63\%, \quad \frac{8}{11} = 72.72\%, \\ \frac{9}{11} &= 81.81\%, \quad \frac{10}{11} = 90.90\% \end{aligned}$$

What percent of a day is 3 hours ?

(A) $12\frac{3}{4}$

(B) $12\frac{1}{2}$

(C) $12\frac{1}{4}$

(D) 12

ஒரு நாளில் 3 மணி நேரம் என்பது எத்தனை சதவிகிதம் ?

(A) $12\frac{3}{4}$

(B) $12\frac{1}{2}$

(C) $12\frac{1}{4}$

(D) 12

Of the budget allocation of Rs. 300.4 lakh from the following allocations for A = 40%, B = 18%, C = 9%, D = 25% and E = 8%. Find how much of money is allocated for B and D ?

- (A) 78.10 Lakhs
(B) 99.13 Lakhs
(C) 144.47 Lakhs
(D) 129.17 Lakhs

ரூ. 300.4 இலட்சம் நிதி ஒதுக்கீட்டில் A = 40%, B = 18%, C = 9%, D = 25% மற்றும் E = 8% ஒதுக்கீடு செய்யப்பட்டுள்ளது. B மற்றும் D விற்கு ஒதுக்கப்பட்ட தொகையினை கண்டறிக ?

- (A) 78.10 இலட்சங்கள்
(B) 99.13 இலட்சங்கள்
(C) 144.47 இலட்சங்கள்
(D) 129.17 இலட்சங்கள்

The value of a motor cycle 2 years ago was ₹ 70,000. It depreciates at the rate of 4% p.a. Find its present value.

(A) ₹ 64,512

(B) ₹ 65,000

(C) ₹ 64,400

(D) ₹ 66,000

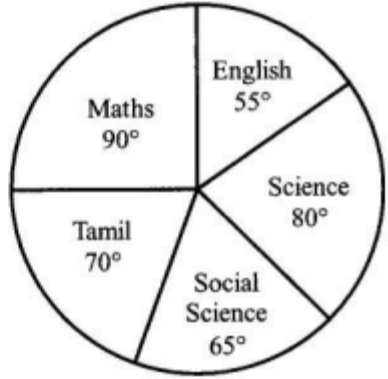
இரு சக்கர வாகனம் ஒன்றின் விலை 2 ஆண்டுகளுக்கு முன் ₹ 70,000 ஆக இருந்தது. அதன் மதிப்பு ஆண்டுதோறும் 4% வீதம் குறைகிறது. அதன் தற்போதைய மதிப்பைக் காண்க.

(A) ₹ 64,512

(B) ₹ 65,000

(C) ₹ 64,400

(D) ₹ 66,000



If the full marks of the examination is 540, what is the percentage marks in Mathematics of the full marks ?

- (A) 20%
- (B) 30%
- (C) 35%
- (D) 25%



ஒரு தேர்வின் மொத்த மதிப்பெண்கள் 540 எனில் மொத்த மதிப்பெண்களில் கணிதப்பாட மதிப்பெண்களின் சதவிகிதம் யாது ?

A family went to a hotel and spent ₹ 350 for food and paid ₹ 8.75 as CGST and SGST each.

What should be the percentage of GST ?

(A) 4%

(B) 6%

(C) 5%

(D) 4.5%

ஒரு குடும்பம் உணவகம் ஒன்றுக்கு சென்று உணவுக்காக ₹ 350 ஐச் செலவிட்டு ₹ 8.75ஐ தனித்தனியாக மத்திய மற்றும் மாநில சரக்கு மற்றும் சேவை வரியாக செலுத்தியது எனில் சரக்கு மற்றும் சேவை வரியின் சதவீதம் என்ன ?

(A) 4%

(B) 6%

(C) 5%

(D) 4.5%

0.07% is

(A) $\frac{7}{10}$

(B) $\frac{7}{100}$

(C) $\frac{7}{1000}$

(D) $\frac{7}{10000}$

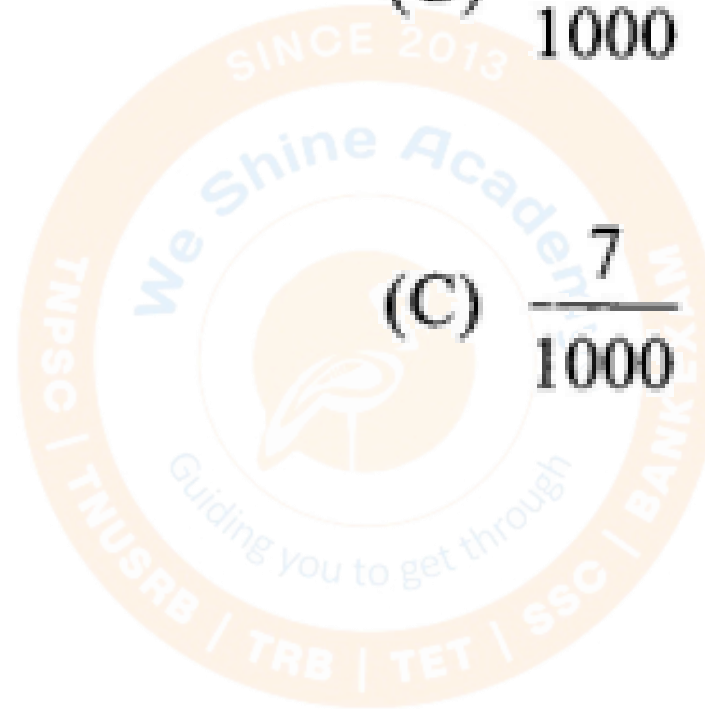
0.07% என்பது

(A) $\frac{7}{10}$

(B) $\frac{7}{100}$

(C) $\frac{7}{1000}$

(D) $\frac{7}{10000}$



4-way Shortcuts Smart Approach

1. If A's salary is 20% more than B's salary, then B's salary is how much % lesser than A's salary?

- A) 20%
- B) 16.67%
- C) 25%
- D) 15%



2. If A's salary is 37.5% lesser than B's salary, then B's salary is how much % greater than A's salary?

- A) 37.5%
- B) 50%
- C) 60%
- D) 40%



3. If a number is increased by 25%, then what % this to be decreased to bring it back to the original number?

- A) 25%
- B) 20%
- C) 15%
- D) 10%



4. Price of sugar is decreased by 30%, then how much % must a person increase his consumption so that his expenditure on it does not change?

- A) 30%
- B) 42.85%
- C) 40%
- D) 33.33%



5. If the length of a rectangle is increased by 83.33%, then how much % its breadth should be decreased so that we can maintain the same area?

- A) 45.45%
- B) 50%
- C) 83.33%
- D) 40.5%



Successive Percentage

1. A person's salary is increased by 10% and then decreased by 20%. Find the overall percentage change in his salary?

- A) decreased by 10%
- B) increased by 10%
- C) decreased by 30%
- D) decreased by 12%



2. Price of Sugar is increased by 30% and a family decreased their consumption by 30%. Find the change in expenditure?

- A) No change
- B) 6% decrease
- C) 9% decrease
- D) 9% increase



3. Malar buys goods for Rs. 800. She gets a discount of 10% and pays 20% tax. What's the amount should she pay?

- A) Rs. 720
- B) Rs. 800
- C) Rs. 864
- D) Rs. 880



4. In order to increase the total revenue a seller announced 20% discounts; as a result the sales volume increased by 20%. What is the net effect on the sales revenue?

- A) 4% increase
- B) 4% decrease
- C) No change
- D) 10% decrease



5. What is the single discount equivalent to the two successive discounts of 10% and 30%?

- A) 40%
- B) 37%
- C) 35%
- D) 33%



6. A bought a pen for Rs. 72. He sold it to B at a loss of 10%. B sold it to C at a profit of 25%. Then find the price paid by C?

- A) Rs. 72
- B) Rs. 75
- C) Rs. 81
- D) Rs. 90



% change in Area, Volume

1. If length of the rectangle is increased by 20% and breadth is decreased by 30%, then find the % change in its area?

- A) 10% decrease
- B) 16% decrease
- C) 6% increase
- D) 5% decrease



2. If a side of a square is increased by 20%, then find the change in its area?

- A) 40% increase
- B) 20% increase
- C) 44% increase
- D) 48% increase



3. If a side of a square is decreased by 10%, then find the change in its area?

- A) 20% decrease
- B) 19% decrease
- C) 21% decrease
- D) 10% decrease



4. If a radius of a cylinder is increased by 20%, and its height is decreased by 10%, then find the change in its volume?

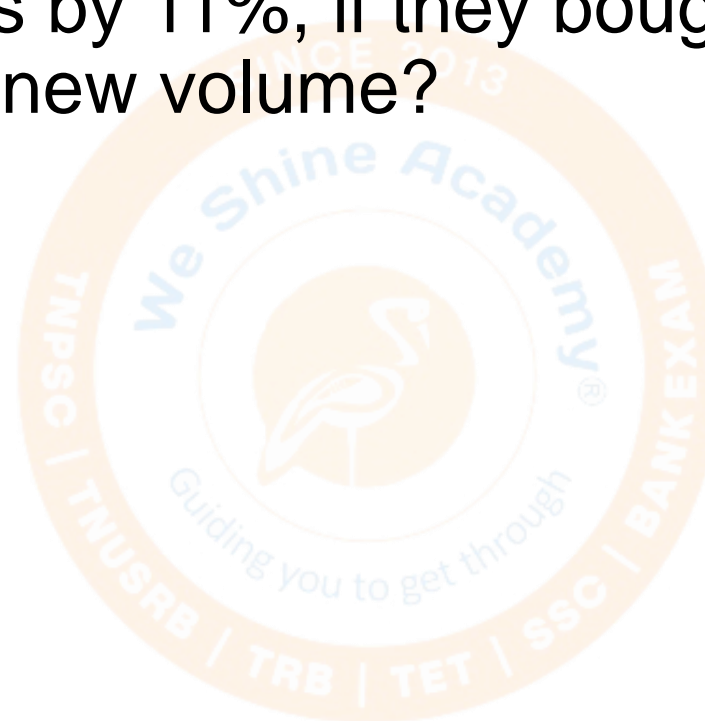
- A) 10% increase
- B) 25.4% increase
- C) 29.6% increase
- D) 30% increase



Price, Consumption, Expenditure

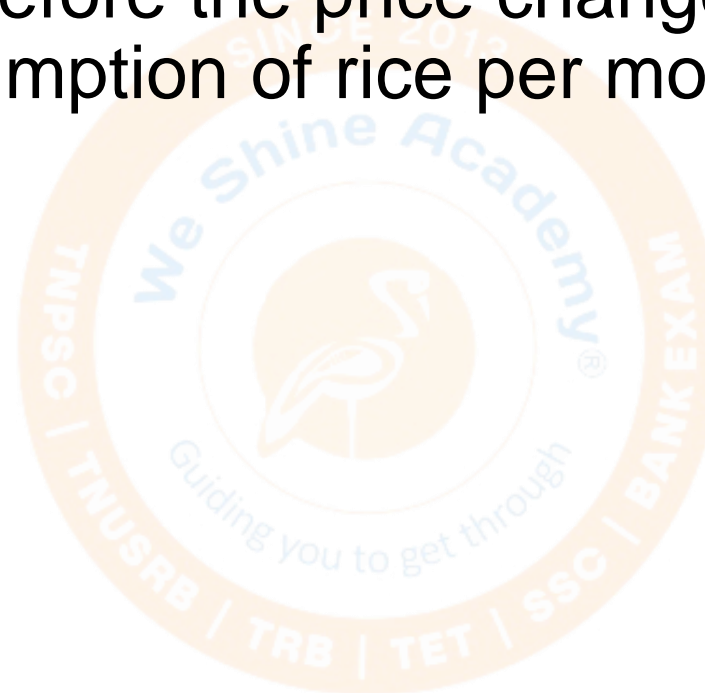
1. If sugar price increased by 20% and consumption is reduced such that expenditure decreases by 11%, if they bought 30per kg of sugar before, then what was the new volume?

- A) 20per kg
- B) 22.25per kg
- C) 25.5per kg
- D) 24.75per kg



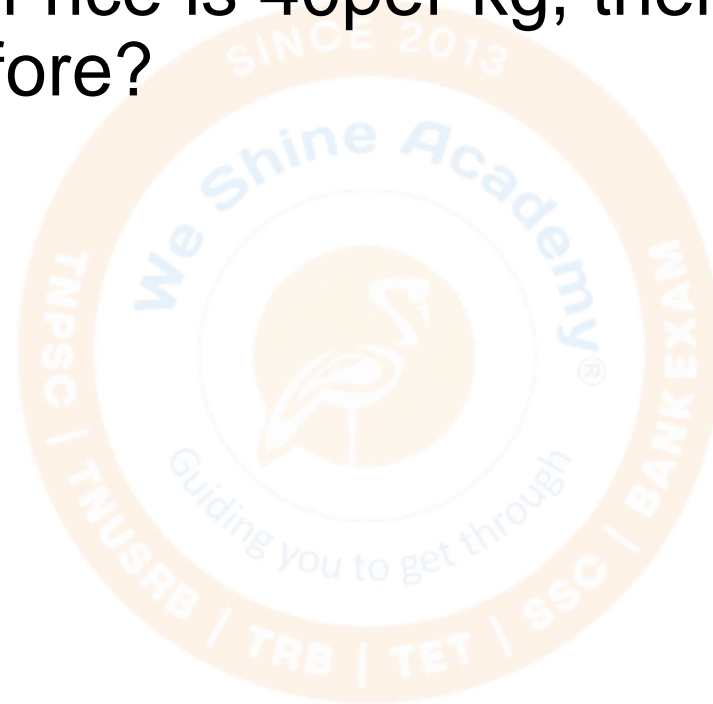
2. If price of rice increased by 40%. A family reduced their consumption so that the expenditure of the rice was up by 10% only. If total consumption of rice before the price change was 7 per kg per month, then find the consumption of rice per month at present?

- A) 5 per kg
- B) 6 per kg
- C) 5.5 per kg
- D) 4.5 per kg



3. If price of rice decreased by 10%. A family adjusted their consumption so that the expenditure of the rice was up by 20% only. At present consumption of rice is 40per kg, then find how many kg of rice did they consume before?

- A) 35per kg
- B) 30per kg
- C) 28per kg
- D) 32per kg



4. If price of sugar is increased by 24%. A person wants to increase his expenditure by 18% only. By approximately what percent should he decrease his consumption?

- A) 5.2%
- B) 4.8%
- C) 6.0%
- D) 4.1%



5. If the price of wheat is increased by 45%. By how much of consumption should be decreased so as the expenditure will be increased by only 16%?

- A) 25%
- B) 15%
- C) 20%
- D) 18%



6. If the length of the rectangle is increased by 50%. How much breadth should be decreased, so that the area will be increased only 20%?

- A) 25%
- B) 20%
- C) 30%
- D) 15%



Special Types

1. 21% of a number is 84. Then find

(i) The number,

(ii) 25% of that number,

(iii) One-fifth of the number.

A) (i) 400 | (ii) 100 | (iii) 80

B) (i) 100 | (ii) 400 | (iii) 80

C) (i) 80 | (ii) 100 | (iii) 400

D) (i) 120 | (ii) 80 | (iii) 400



2. 40% of a number is 25% of another number. Then find the ratio of first number to second number?

- A) 8:5
- B) 5:8
- C) 2:3
- D) 3:4



3. 30% of a number is added to another number the second number is increased by 20%. What is the ratio between 1st and 2nd number?

- A) 3:2
- B) 2:3
- C) 1:1
- D) 4:5



4. One-fifth of three-fourth of 30% of a number is 27. Then find 30% of that number?

- A) 150
- B) 180
- C) 200
- D) 270



Exam Based Problems

1. A student has to obtain 33% of the total marks to pass. He got 25% of the total marks and failed by 40 marks. Then find the total mark and pass mark?

- A) Total: 550, Pass: 155
- B) Total: 800, Pass: 170
- C) Total: 400, Pass: 180
- D) Total: 500, Pass: 165



2. A student has to obtain 45% of the total marks to pass. He got 55% and it was 40 marks more than the pass mark. Find the total mark and pass mark?

- A) Total: 500, Pass: 280
- B) Total: 400, Pass: 180
- C) Total: 600, Pass: 180
- D) Total: 450, Pass: 160



3. A student has to obtain 35% of the total marks to pass. He got 90 marks and failed by 15 marks. Find the total mark?

- A) 250
- B) 300
- C) 350
- D) 400



4. In an exam, a student has to obtain 33% of the maximum mark to pass. He got 180 and it was 15 marks more than the pass mark. What is the total mark?

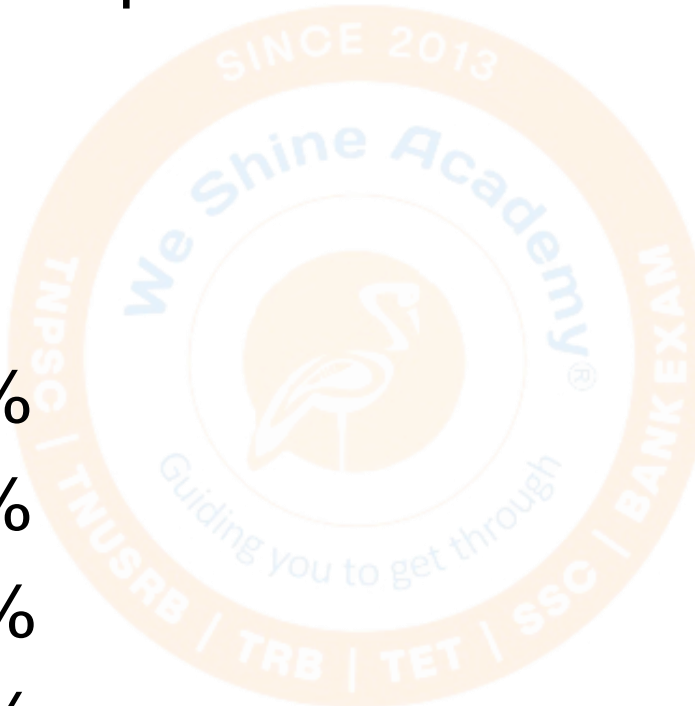
- A) 450
- B) 500
- C) 550
- D) 600



5. In an examination, a student who gets 20% of maximum mark fails by 5 marks. Another student who gets 30% of the maximum marks gets 20 marks more than the pass mark. Then find

- (i) Total mark,
- (ii) Pass mark,
- (iii) Pass percentage?

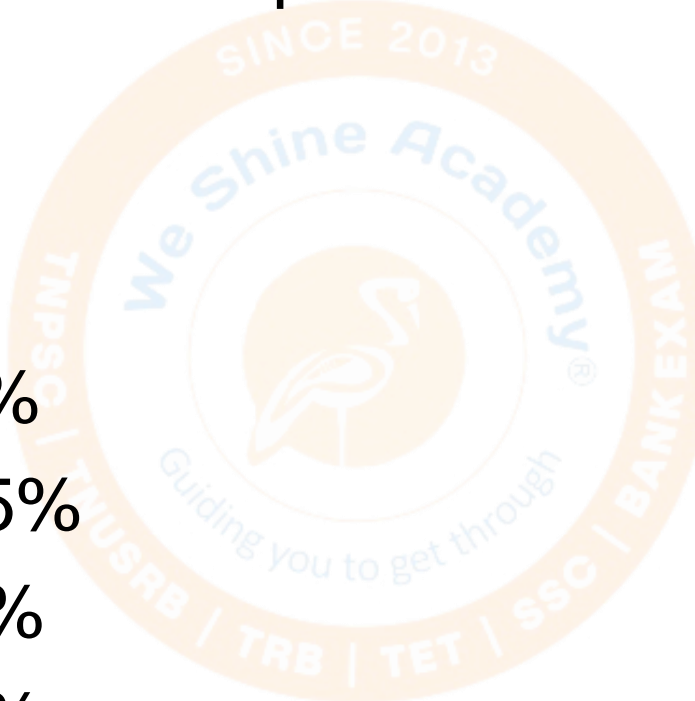
- A) (i) 250 | (ii) 55 | (iii) 22%
- B) (i) 350 | (ii) 55 | (iii) 28%
- C) (i) 450 | (ii) 57 | (iii) 23%
- D) (i) 150 | (ii) 53 | (iii) 26%



6. In an examination, a student who gets 25% of maximum mark fails by 15 marks. Another student who gets 40% of the maximum marks and gets 30 marks more than the pass mark. Then find

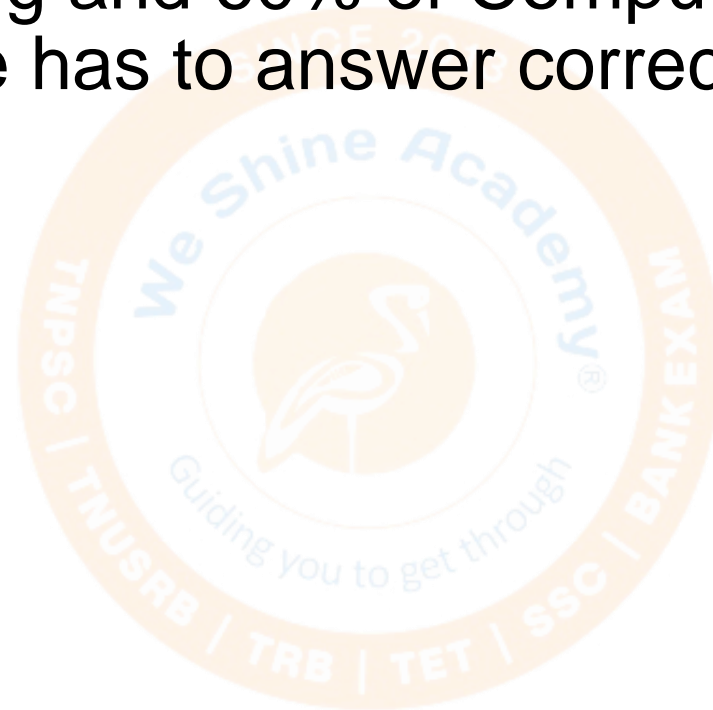
- (i) Total mark,
- (ii) Pass mark,
- (iii) Pass percentage?

- A) (i) 250 | (ii) 80 | (iii) 30%
- B) (i) 400 | (ii) 100 | (iii) 25%
- C) (i) 300 | (ii) 90 | (iii) 30%
- D) (i) 350 | (ii) 70 | (iii) 30%



7. Vimala's banking exam had 80 questions (15 English, 35 Quants, 20 Reasoning, 10 Computer). She answered 40% of English, 20% of Quants, 50% of Reasoning and 60% of Computer correctly. How many more questions she has to answer correctly if 40% is the passing grade?

- A) 5
- B) 4
- C) 3
- D) 2



Election Based Problems

1. In an election between 2 candidates the one who got 30% votes lost by 800 votes. Find the total number of votes cast?

- A) 1600
- B) 2000
- C) 2400
- D) 3000



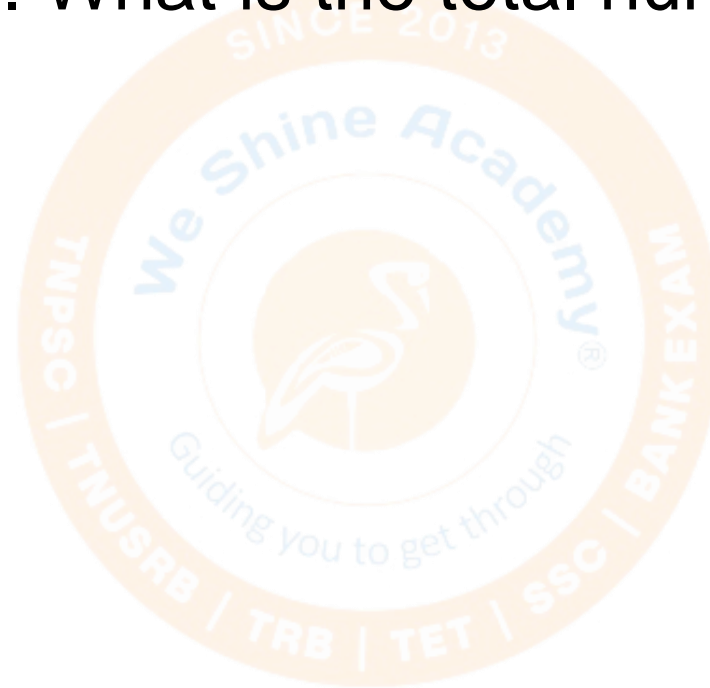
2. In an election between 2 candidates who gets 88% of the votes is elected by a majority of 760 votes. What is the total number of votes polled?

- A) 800
- B) 1000
- C) 1200
- D) 1500



3. In an election there are 2 candidates. 20% of the voters did not cast their votes. The winner got 50% of the total votes and defeated the other by 3000 votes. What is the total number of votes?

- A) 12,000
- B) 15,000
- C) 10,000
- D) 20,000



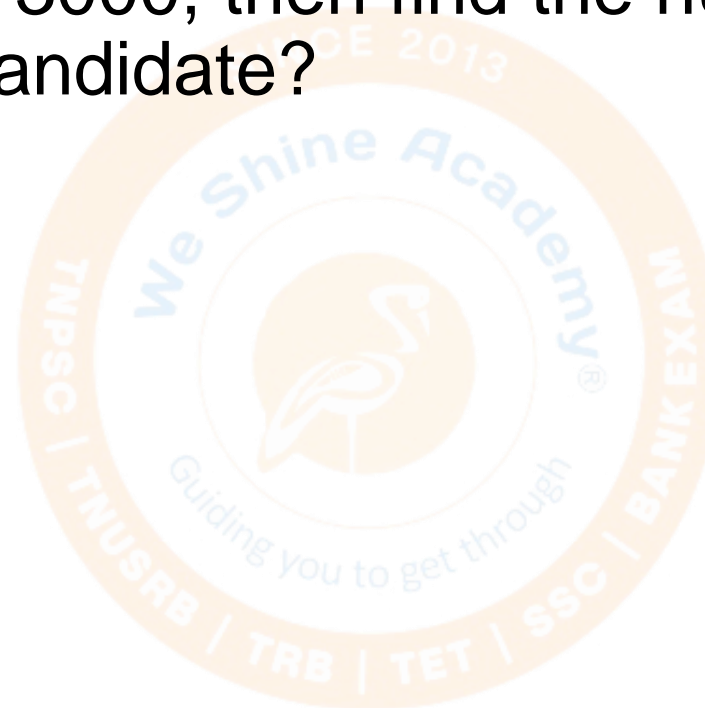
4. In an election there are 2 candidates. 10% the voters did not cast their votes. The winner got 70% of the total votes and defeated the other by 2000 votes. What is the total number of votes?

- A) 3000
- B) 4000
- C) 5000
- D) 2500



5. In an election there are 2 candidates. 30% of the total votes were declared invalid and 1st candidate got 60% of total valid votes. If the total number of voters is 3000, then find the number of valid votes polled in favour of 2nd candidate?

- A) 1260
- B) 840
- C) 1000
- D) 900



6. In an election there are 2 candidates. 20% of the total votes were declared invalid and 1st candidate got 70% of total valid votes. If the total number of voter is 15,000, then find the number of valid votes polled in favour of 2nd candidate?

- A) 8400
- B) 3600
- C) 4000
- D) 4500



7. In an election between two candidates, 10% of the voters did not cast their vote. 10% of the votes polled were found invalid. The successful candidate got 60% of the valid votes and won by a majority of 1620 votes. Then find total number of votes?

- A) 8000
- B) 10,000
- C) 12,000
- D) 15,000



8. In an election between two candidates, 20% of the voters did not cast their vote. 10% of the votes polled were found invalid. The successful candidate got 70% of the valid votes, and won by a majority of 576 votes. Then find total number of votes?

- A) 1500
- B) 2000
- C) 2500
- D) 3000



A large, faint watermark logo for Weshine Academy is centered in the background. It is circular with an orange border. The text 'Weshine Academy' is written in a light blue font across the top. Below it, 'SINCE 2013' is written in a smaller font. At the bottom, 'Guiding you to get through' is written in a light blue font. The logo also lists various exam types: 'TNUSRB | TRB | TET | SSC | BANK EXAM'.

Thank You