MATHS

BOOKS - ICSE

PERCENTAGE

Solved Examples

1. Express each of the following as a fraction :

16%

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2. Express each of the following as a fraction :

125%

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3. Express each of the following as a fraction :

2.4%

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4. Express each of the following as a fraction :

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

5. Express each of the following as a decimal :

$$13\ \%$$

6. Express each of the following as a decimal :

7%

7. Express each of the following as a decimal :

240%

8. Express each of the following as a decimal :

$$26\frac{1}{2}\,\%$$

9. Express each of the following as a ratio :

$$12\,\%$$

10. Express each of the following as a ratio :

$70\,\%$

11. Express each of the following as a ratio :

$7.5\,\%$

12. Express 32% as a

fraction

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13. Express 32% as a

decimal

▶ **Watch Video Solution**

14. Express 32% as a

ratio

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15. Express each of the following as a

percentage :

$\dfrac{3}{4}$

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16. Express each of the following as a percentage :

$$\frac{1}{6}$$

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17. Express each of the following as a percentage :

5

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18. Express each of the following as a percentage :

$2\dfrac{3}{5}$

19. Express each of the following as a percentage :

0.3

20. Express each of the following as a percentage :

0.6

21. Express each of the following as a percentage :

2.005

22. Express each of the following as a percentage :

3.2

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23. Express as a percentage :

$3 : 4$

> ▶ **Watch Video Solution**

24. Express as a percentage :

$8 : 125$

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25. Find :

15% of Rs 70

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26. Find :

$12\dfrac{1}{2}\%$ of 56 kg

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27. Find :

4% of (1 hour15min.)

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28. Express :

65 paise as a per cent of Rs 5

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29. Express :

240 g as a per cent of 3 kg 600 g

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30. Express :

80 cm as a per cent of 2 m 50 cm

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31. Increase 80 by 15%

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32. Decrease 60 by 35%

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33. Find the number which when increased by

12% becomes 840.

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34. Find the number which when decreased by

15% becomes 680.

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35. By what number must a given number be multiplied to increase it by 20%

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36. A cycle costs Rs 8500. It cost is reduced to Rs 7990. Find the decrease per cent in its cost.

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37. After deducting 6% of a bill, the amount to be paid is Rs 658. How much was the original bill ?

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38. A line segment of length 7.5 cm was wrongly measured as 7.2 cm. What was the error per cent ?

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1. What per cent of 90 is 18 ?

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2. 28% of a number is 42. Find the number.

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3. The money spent on the repair of a house was 2% of its value. If the cost of repair is Rs 9600, find the cost of the house.

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4. An ore contain 8% zinc. How many kg of the ore will be required to get 2.8 kg of zinc ?

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5. A man who spends 72% of his income is able to save Rs 6300 per month. Find his monthly income and

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6. A man who spends 72% of his income is able to save Rs6300 per month. Find his monthly expenses

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7. At an election between two candidates 53 votes were declared invalid. The winning candidate secures 58% of the valid votes and wins by 588 votes. Find the total number of votes polled.

8. 1200 boys and 600 girls are examined in a test. 42% of the boys and 30% of the girls passed. Find the percentage of those who failed.

Exercise 9 A

1. Express each of the following as a per cent :

$$\frac{3}{5}$$

2. Express each of the following as a per cent :

$$\frac{5}{16}$$

3. Express each of the following as a per cent :

$$\frac{19}{40}$$

4. Express each of the following as a per cent :

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

5. Express each of the following as a per cent :

0.45

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6. Express each of the following as a per cent :

0.03

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7. Express each of the following as a per cent :

0.1

8. Express each of the following as a per cent :

2.45

9. Express each of the following as a per cent :

$5 : 8$

10. Express each of the following as a per cent

:

$11:18$

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11. Express each of the following as a per cent :

$1:5$

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12. Express each of the following as a per cent :

$5:4$

13. Express each of the following as a fraction :

24%

14. Express each of the following as a fraction :

$$12\frac{1}{2}\ \%$$

15. Express each of the following as a fraction :

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

16. Express each of the following as a fraction :

165%

17. Express each of the following as a fraction :

0.25%

18. Express each of the following as a fraction :

$0.05\ \%$

19. Express each of the following as a fraction :

$2.25\ \%$

20. Express each of the following as a fraction :

$0.006\,\%$

21. Express each of the following as a ratio :

$12\,\%$

22. Express each of the following as a ratio :

$$\frac{3}{5} \, \%$$

23. Express each of the following as a ratio :

$$7.5 \, \%$$

24. Express each of the following as a ratio :

0.36%

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25. Find :

25% of Rs 7

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26. Find :

$7\dfrac{1}{2}\%$ of Rs 40

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27. Find :

1% of Rs 325

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28. Find :

8% of 5 kg

29. Find :

$16\dfrac{2}{3}\%$ of 9 m

30. Find :

0.6% of 5 km

31. Find :

$6\dfrac{1}{4}\%$ of (1 hour 20 min.)

32. Express :

56 p as a per cent of Rs 2.80

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33. Express :

45 cm as a per cent of 3 m

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34. Express :

630 g as a per cent of 3.5 kg

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35. Express :

18 hour as a per cent of 2 days

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36. Express :

2.8 mm as a per cent of 2.24 cm

37. What per cent of 1.5 m is 60 cm ?

38. What per cent of 2 kg is 125 g ?

39. What per cent of Rs 6 is 40 p ?

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40. What per cent of a day is 10 h ?

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41. What per cent of $7\dfrac{1}{3}$ m is $5\dfrac{1}{2}$ m ?

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1. If $16\,\%$ of a number is 60, find the number.

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2. If $13\dfrac{1}{3}\,\%$ of a number is 90, find the number.

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3. If $0.6\,\%$ of a number is 15, find the number.

4. If $\dfrac{3}{4}\,\%$ of a number is 9, find the number.

5. There are 42 boys and 18 girls in a class. What is the percentage of boys in the class ?

6. A team won 6 hockey matches and lost 9 matches. What per cent of the matches did the team win ?

7. A batsman scored 75 runs which included 3 boundries and 8 sixes. What per cent of the total score did he make by running between the wickets?

8. 12% of a sum of money is Rs 42. What is 20% of the same sum?

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9. $6\dfrac{1}{4}$ of a weight is 0.25 kg. What is 45% of this weight?

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10. In a class of 60 pupils, 15% remained absent on a rainy day. How many pupils were present in the class on that day ?

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11. The monthly income of Mr. Amit Goel is Rs 30400. He saves 12.5% of his income and the rest he spends. How much does he spend each month ?

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12. An ore contain 15% iron. How much ore will be required to get 18 kg of iron ?

13. A property dealer charges a commision of 2% on the first Rs 25000 and 1.5% on the remainder. What commision does he charge for selling a plot of land for Rs 130000?

14. In an examination, the maximum marks are 850. Rohit gets 34% marks and fails by 17 marks. Find (i) the passing marks and (ii) the minimum percentage for passing the examination.

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15. A student secures 90%, 60% and 54% marks in three test papers with maximum

marks 100, 150 and 200 respectively. Find his aggregate percentage.

16. In an examination, 5% of the applicants were found ineligible and 85% of the eligible candidates belonged to the general category. If 4275 candidates belonged to other categories, then how many candidates applied for the examination ?

17. Gun - powder contains 75% nitre, 10% sulphur and the rest of it is charcoal. Find the quantity of charcoal in 8 kg of gun-powder.

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18. An alloy consists of 13 parts of copper, 7 parts of zinc and 5 parts of nickel. Find the percentage of copper in the alloy.

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19. Two candidates A and B contested an election. The total votes polled were 9650. If A got 54% of the votes, find the number of votes received by each.

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20. At an election between two candidates, 68 votes were declared invalid. The winning candidate secures 52% of the valid votes and

wins by 354 votes. Find the total number of votes polled.

21. The salary of Mrs. Sarita is Rs 32000 per month. 10% of it is deducted by the employer as provident find. Of the remaining money, she spends 20% on house rent, 46% on food, 14% on the education of children and 10% onother expenses. Rest she saves. Find :

how much is credited each month to her Provident Fund Account.

22. The salary of Mrs. Sarita is Rs 32000 per month. 10% of it is deducted by the employer as provident find. Of the remaining money, she spends 20% on house rent, 46% on food, 14% on the education of children and 10% onother expenses. Rest she saves. Find :

how much is spent on food.

23. The salary of Mrs. Sarita is Rs 32000 per month. 10% of it is deducted by the employer as provident find. Of the remaining money, she spends 20% on house rent, 46% on food, 14% on the education of children and 10% onother expenses. Rest she saves. Find : how much is paid as house rent.

24. The salary of Mrs. Sarita is Rs 32000 per month. 10% of it is deducted by the employer as provident find. Of the remaining money, she spends 20% on house rent, 46% on food, 14% on the education of children and 10% onother expenses. Rest she saves. Find :

how much is spent on the education of children.

25. The salary of Mrs. Sarita is Rs 32000 per month. 10% of it is deducted by the employer as provident fund. Of the remaining money, she spends 20% on house rent, 46% on food, 14% on the education of children and 10% another expenses. Rest she saves. Find : how much does she save every month.

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Exercise 9 C

1. Increase :

375 by 4%

2. Increase :

500 by 3.4%

3. Increase :

70 by 140%

4. Increase :

48 by $12\dfrac{1}{2}$ %

5. Increase :

90 by 2 %

6. Decrease :

70 by 40%

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7. Decrease :

340 by 35%

▶ **Watch Video Solution**

8. Decrease :

65 by 4%

9. Decrease :

36 by $16\dfrac{2}{3}\%$

10. Decrease :

260 by 1.5%

11. Find a number :

Which when increased by 10% becomes 66.

12. Find a number :

Which when increased by 120% becomes 77.

13. Find a number :

Which when increased by 2.5% becomes 246.

14. Find a number :

Which when decreased by 35% becomes 52.

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15. Find a number :

Which when decreased by 8% becomes 115.

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16. Find a number :

Which when decreased by 3.4% becomes 483.

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17. By what number must a given number be multiplied to increase it by 12% ?

▶ **Watch Video Solution**

18. By what number must a given number be

multiplied to decrease it by 30% ?

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19. The price of a fan increase from Rs 3260 to

Rs 3749. Find the increase per cent in its price.

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20. The monthly salary of Mr. Rakesh is Rs 32500. After deducting the provident fund, he gets Rs 29900 per month. What per cent of the salary is deducting as provident fund ?

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21. A car was purchased last years for Rs 415000. Now, its value is Rs 356900. At what rate is the car depreciating?

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22. On decreasing the price of a car by 6%, its value becomes Rs 249100. What was the original price of the car?

23. On increasing the salary of a man by 12%, his salary in increased by Rs 2316. What was the original salary?

24. The salary of Gopal was increased by 10% and then the increased salary was decreased by 10%. Find the net increase or decrease per cent in his original salary.

25. After deducting 4% of a bill, the amount still to be paid is Rs 1488. How much was the original bill ?

26. The weight of a boy was 40 kg. But, it was wrongly measured as 42 kg. Find the error per cent.

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Example

1. There are 100 students in class VII in a school. 40 students are in Section A, 33 in Section B, and the remaining students are in

Section C. Find what percentage of students are there in each section.

2. Complete the table given below. One has been done for you.

Out of 100	Percentage	Fraction with Denominator 100	Fraction	Ratio	Decimal
5 out of 100	5%	$\frac{5}{100}$	$\frac{1}{20}$	1:20	0.05
13 out of 100					
20 out of 100					
25 out of 100					
40 out of 100					
50 out of 100					
65 out of 100					
75 out of 100					
100 out of 100					

3. Convert the following fractions into percentages.

a. $\dfrac{2}{25}$ b. $\dfrac{3}{75}$ c. $\dfrac{3}{20}$ d. $\dfrac{5}{8}$ e. $\dfrac{7}{40}$ f. $\dfrac{5}{6}$ g. $\dfrac{3}{2}$
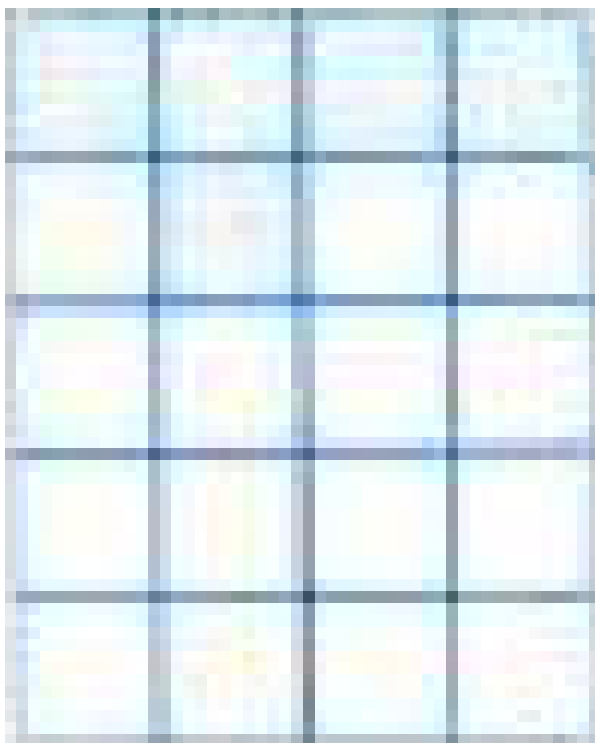
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4. Radha has a box of toffees. She ate a few and now she has $\dfrac{3}{5}$ of the toffees left. What percentage of toffees are left with her? What percentage of toffees did she eat?

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5. Find what per cent of the figure given alongside is shaded and what per cent is not

shaded.

6. A tray has three kinds of pastries, vanilla, chocolate, and pineapple. If 40% of the pastries are chocolate and 25% pastries are vanilla, find the percentage of pineapple pastries in the tray.

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7. Convert the following decimals into percentages.

a. 0.2 b. 0.02 c. 0.002 d. 0.0002 e. 2.2

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8. Convert the following ratios to percentages.

a. 7:8 b. 1:12

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9. Convert the following percentages into fractions and decimals.

a. 23 % b. 35 % c. 27.5 % d. 85 % e. 150 %

10. Dipika scored 35 out of 50 in the half-yearly examination and 65 out of 100 in the final examination in English. In which examination was her performance better?

11. Find $8\ \%$ of 125.

12. a. $13\,\%$ of 300 km b. $16\,\%$ of 625 litres

13. Rajesh studies for 6 hours in a day, of hich he spends $60\,\%$ time on Mathematics and $40\,\%$ time on Physics. Find out how much time he spends studying thw two subjects.

14. Ravi, Seema, and Sujoy ordered 2 pizzas. The ratio of the number of pieces eaten by them is $7:4:5$, respectively. What percentage of pizza was eaten by each of the three friends?

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15. A mixture of iron, sand, and glass contains the three ingredients in the ratio $4:7:9$, respectively. How much and what percentage of iron, sand, and glass is in 500 g of the mixture?

16. The number of cars in a small colony increased from 500 to 600 in a year. Find the percentage increase.

17. The price of a drug changed as follows:

a. reduced from Rs 72 to Rs 60. Find the percentage decrease in the price.

b. increased from Rs 60 to Rs 72. Find the percentage increase in price.

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18. Last year, there were 80 trees in a colony. 200 additional trees were planted this year. Find the increase percent of the number of tress.

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19. Asha's mother told her that when she was a child, the price of wheat was Rs2/kg. The price of wheat today is Rs36/kg. Find the percentage increase in the price of the wheat.

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20. What percentage of 1 kf is 16 g?

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21. What percentage of 3 days is 18 hours?

22. Jyoti drank 12% of the juice from a jar. If Jyoti drank 180mL of juice, how much juice was there in the beginning?

23. If 90 is increased by 10% , then find the increased amount.

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24. Rajani has 120 coins in her purse. Of these, 40 are Rs1 coins, 50 are Rs5 coins, and 30 are Rs10 coins. Find the percentage of coins of each denominations.

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25. Neerja is going to Chandigarh from Delhi. She has travelled 270 km. This is 90% of the total distance between Delhi and Chandigarh. What is the distance between the two cities ?

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26. Lata spent 20% of the money she had on jeans and 5% on a pair of slippers. She was left with Rs2700. How much money did she have in the beginning?

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27. In an election, there are two candidates A and B. The total number of voters is 60,000 and 80% of the total votes are polled. If 60% of the polled votes were cast in favour of A, how many votes were polled in favour of B?

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28. Raj and Vinay are participating in the "Tree Plantation Drive". Raj plants 30% of the

plants and then Vinay came and planned 117 plants. If 25% of the plants are still to be planted, find the total number of plants that were to be planted.

29. A shopkeeper has a dress costing Rs 400, a bag for Rs175, and a pair of shoes for Rs 250 in his shop. He sells the dress for Rs 450, bag for Rs 175, and the shoes for Rs 220. Find the gain

or loss on the three items sold by the shopkeeper.

30. The CP of a pen is Rs 80. It is sold at Rs 100. Find the gain per cent.

31. Neha bought a camera for Rs 18,500 and sold it to Priya at a gain of 10%. What did

Priya pay for the camera?

32. Juhi sells a washing machine for Rs 13.500.

She loses 20 % in the bargain. What was the

price atwhich she bought it?

33. An article costs Rs 80. It is sold at a profit of 10%. Find the gain amount.

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34. A shopkeeper sells Mathematics books at Rs 265 per book. In one day he sells 40 books and earns a profit of Rs 600. Find the gain per cent and the cost price of the book.

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35. A shopkeeper sells an item for Rs 875, making a profit equal to $\dfrac{1}{4}$ of the cost price. Find the gain per cent and the cost price.

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36. Ravi bought a mobile for Rs 12,800. He bought its cover and screen guard for Rs 2800. He then sold it for Rs 16,536. Find the gain or loss per cent.

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37. A tea-shop owner mixes two kinds of tea, type A and type B, in the ratio $3:5$. If type A costs Rs 200 per kg and type B costs Rs 160 per kg, find the price at which the blend must be sold to make a profit of 8%.

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Try This

1. Sid has a bag with 100 marbles. There are 40 red marbles and 60 blue marbles in the bag.

1. What percentage of red marbles are there in the bag?

2. Write the percentage of blue marbles in the bag:

a. as a fraction with denominator 100

b. as a fraction in simplest form

c. as a ratio

d. as a decimal number

2. Express the following fractions as percentages.

a. $\dfrac{3}{5}$ b. $\dfrac{1}{12}$ c. $\dfrac{3}{20}$ d. $\dfrac{2}{3}$

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3. Pooja answered $\dfrac{4}{5}$ of the questions given in a question paper correctly. What percentage of questions did she answer correctly?

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4. Sumit has a box of marbles. He gave $\dfrac{3}{10}$ of the marbles to his friend Amit. What percentage of marbles are left with Sumit? What percentage of marbles are left with Sumit? What percentage of marbles did Amit get?

    A. 65 % ; 35 %

    B. 90 % ; 10 %

    C. 70 % ; 30 %

    D. 57 % ; 43 %

Answer: C

5. In a class, 45% students play football and the rest play cricket. What per cent of the students play cricket?

6. Express the following decimals as percentages.

i. 0.16 ii. 3.6 iii. 0.05 iv. 2.39

7. Express the following ratios as percentages.

i. $2:3$ ii. $3:7$ iii. $3:5$ iv. $7:13$

8. Express the following percentages as decimals and fractions.

i. 15% ii. $8\frac{1}{3}\%$ iii. 120% iv. $33\frac{1}{3}\%$

9. What percentage is:

a. 30 out of 75 b. 200 g out of 1 kg

10. Which is the higher percentage: 42 out of

60 or 48 out of 80.

11. Find: a. 15% of Rs 250 b. 18% of 900km

12. John had Rs 60 with him. He spent 40% of the money he had on a sandwich and the rest on an ice cream. Find the amount he spent on each item.

13. Ashwin distributed 75 sweets amongst Shweta, Pallavi, and Geeta in the ratio $3:4:8$. Find how many and what percentage of sweets did each get.

14. Raman secured 750 in aggregate in the half-yearly examination in class 7. In the final examination, Raman's aggregate marks

reduced to 720. Find the percentage decrease in Raman's marks.

15. Rashmi's weight decreased by 8% over three months. If the weight lost was 4.2 kg, what was her weight 3 months ago?

16. What percentage of 4 m is 25 cm?

17. What percentage of 4.5 litres is 150 millilitres?

18. Arti has to answer 30 multiple-choice questions in an assignment. She has answered 24 questions correctly. What percentage of questions has she got correct?

19. In a test. 90% of the students passed and 4 students failed. How many students appeared for the test?

20. If 80 is reduced by 15%, find the decreased amount.

21. Radha had a box of cookies. She gave $30\,\%$ of the cookies to her friend. She ate $25\,\%$ of the cookies. If there are 27 cookies left in the box, how many cookies were there in the box initially?

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22. Anil had to paint a wall. He painted $25\,\%$ of the wall. Umar came and painted 30 sq. m of the wall. If $60\,\%$ of the wall is left unpainted,

how many square metres of wall did Anit paint?

23. In an election , two persons contested and the winner secured 58% of the votes polled. If the difference between their votes is 8480, find the votes secured by the winner.

24. Sudha bought a bicycle for Rs 1680 and sold it for Rs 2310. Find the gain per cent.

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25. By selling an article for Rs 432, a shopkeeper gains 20%. Find the price of the article.

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26. Find the SP of a chair whose CP= Rs 825 and loss % = 8 % .

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27. By selling a fan for Rs 720. a trader incurs a loss of 20 % . Find the loss amount.

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28. A shopkeeper sells TV at Rs 40,250. He sells 6 TV sets in a day and earns a profit of Rs 31,500. Find the cost price and the gain per cent of one TV.

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29. Rinku sells a set of books for Rs 1080, incurring a loss equal to $\dfrac{1}{10}$ of the cost price. Find the loss per cent and the cost price of the set of books.

30. A juice vendor mixes two kinds of juices, pomegranate, and apple, costing Rs 180 and Rs 90 per litre, respectively. He mixes the two juices in the ratio $4:5$. Find the selling price of the juice mix to make a profit of 10%.

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Challenge

1. A factory frants raises twice in a year. If 62% of the workers received their raises in the first period and 10% of these did not receive a raise in the second period, what percentage of the people received raises in both the periods?

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Exercise 9 1

1. Write the following as percentages.

a. $\dfrac{3}{20}$ b. 0.123   c. 7 : 8

d. $\dfrac{7}{25}$ e. 34.765   f. 13 : 25

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2. Write the following percentages as a decimal number, fraction in simplest form and as a ratio.

Percentage	Decimal Number	Fraction in Simplest Form	Ratio
a. 12.5%			
b. 23.6%			

3. Which of the following is equal to

a.11.3 %

i. 1.13 ii. 0.113 iii. $\dfrac{1.13}{120}$

b. 19.07 %

i. 1.097 ii. 0.1907 iii. 1907

4. Fill in the blanks.

a. 15 % of 7200 g = _____ g

b. 18 % of 12,600 km= _____ km

c. 120 % of _____ = 84

d. 80 % of ___ = 72

e. _____ % of 2 km= 120m

f. _____ % of 4 hours = 24 minutes

g. 15 % less than 1 hour = _____ minutes.

h. 12 % more than 2 km = _____ km ___ m

5. A basket has 25 apples, of which 7 are green and the rest are red. Find the percentage of

green and red apples in the basket.

6. In a class of 50 students, 46 students are preent. What per cent of students are absent?

7. In a class of 85% students pass in a surprise test. What per cent of students did not pass?

8. A cartoon of books has 35% Math books, 30% Physics books and the rest are Chemistry books. Find what per cent of books Chemistry books in the carton.

9. Sarla uses one part of suji and two parts of water to make halwa. Find the percentage of suji and water to make halwa.

10. Cement, sand, and gravel are mixed in the ratio $1:2:3$, respectively, to make concrete. What percentages of cement, sand, and gravel are used in concrete?

11. The population of a city increased by 10 % in the previous year. If the present population is 1,32,000, what was the population of the city a year ago?

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12. The number of shops in a shopping complex increased from 300 to 351 in a year. Find the percentage increase?

13. Prateek's salary was increased by 12% to Rs 16,800. Find his salary before the increase.

14. A company intoduces a special packing of mixed fruit juice with 15% extra juice at no extra cost. If the special pack contains 575mL of juice, find the content of the standard pack.

15. Rajesh and Ravi invested in a business in the ratio of $3:7$. In a first year, they made a profit of Rs 22,000. What would be the share of each of them? In the following year, the profit was increased by 12%. Calculate the amount Rajesh receive's in the second year.

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16. A box contain 3600 balls of red, blue, green, and black colours in the ratio $3:4:5:6$. Find the number and percentage of balls of each off the four colours in the box.

17. Apana has to answer 20 questions in an assignment. She has answered 18 questions correctly. What percentage of questions has she got correct?

18. Anita has obtained 520 marks in an examination. If she obtained 80% of the total marks, find the total marks.

19. Pooja spent 20% of the money she had on clothes and 5% on a pair of slippers. She was left with Rs 1800. How much money did she have in the beginning?

20. Amit had to paint a wal. He painted 20% of the wall. Ahmed came painted 75sq.m of the wall. If 55% of the wall is left unpainted, how many square metres of the wall did Amit paint?

21. A nursery has 6500 plants. 15% of these plants are roses and 32% are daisies. What is the total number of other plants in the nursery?

22. In a box of electric bulbs, 12% are defective. If 176 bulbs are good , how many bulbs are defective?

23. Two candidates contested from a constituency in an election. The winner secured 68% of the votes polled. If the difference between their votes was 23,040, find the voes secured by the winner.

24. Darjeeling tea costing Rs 450 per kg is mixed with Assam tea at Rs 250 per kg to make blended tea. If the mixture contains 40%

Darjeeling tea, calculate the cost of 1 kg of the mixture.

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1. Shreya bought a camera for Rs 12,600 and sold it to Priya for Rs 14,364. Find the gain per cent.

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2. A book was bought for Rs 650 and sold with a profit of Rs 104. Find the gain per cent.

3. Aprpan sells a washing machiine for Rs 14,875. He loses 15% in the bargain. What was the price at which he bought it?

4. Rachit sells a television for Rs 26,600. He loses 5% in the bargain. What was the price at which he bought it?
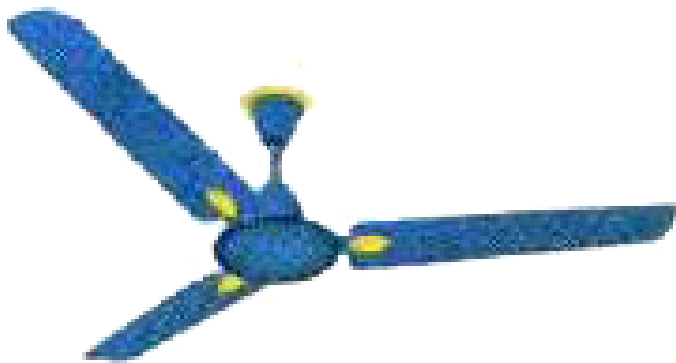
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5. Find the selling price of a table for which the cost price is Rs 650 and the gain $\%$ is 6%.

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6. Find the selling price of a fan for which the cost price is Rs 1200 and the gain % is 8 % .

7. A shopkeeper sells an item for Rs 348, making a profir equal to $\dfrac{1}{5}$ of the cost price. Find the gain per cent and the cost price.

8. Raghu sells a book for Rs 280, making a loss equal to $\dfrac{1}{8}$ of the cost price. Find the loss percent and the cost price.

9. Kirti bought a table for Rs 12,000. She spent Rs 2200 on getting it polished. She then sold it at a profit of 10%. Find its selling price.

10. Raman ordered a TV for Rs 35,000. He had to pay Rs 1000 for getting it delivered. After 2 months he sold it at a loss of 5%. Find the selling price.

11. A vendor sells mangoes at Rs 40 per kg, At the end of the day he found that he sold 30 kg of mangoes ata profit of Rs 200. Calculate the

cost price of the mangoes per kg and his profit percent for 30 kg mangoes. At what price per kg should he have sold if he wanted a profit of 35 % ?

12. A vendor sells apples at Rs 75 per kg, At the end of the day he found that he sold 20 kg of apples ata profit of Rs 250. Calculate the cost price of the apples per kg and his profit percent for 20 kg apples. At what price per kg

should he have sold if he wanted a profit of 36 % ?

13. A trader mixes two varieties of salt, viz. A and B. The cost price of A was Rs 28 per kg and of B was Rs 21 per kg. If he mixes these two varities in the ratio $2:5$, at what price per kg should he sell the mixture to make an profit of 5 % ?

14. A shopkeeper mixes two grades of saffron. Grade I and Grade II. Grade I saffron costs Rs 154 per gram and Grade II costs Rs 121 per gram. The two grades of saffron are mixed in the ratio $3:8$. At what price should he sell the mixture to make a profit of 25% ?

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Revision Exercise

1. Write as percentages.

a. $\dfrac{3}{20}$ b. $\dfrac{7}{8}$ c. $\dfrac{4}{25}$ d. $\dfrac{2}{125}$ e. 0.05 f. 0.003 g. 0.73

h. 2.3 i. $3:20$ j. $9:8$ k. $101:100 l 5:8$`

2. Write the ratio as percentage: $2:3:5$

3. Convert the following percentages into fractions.

a. 17.5% b. 65% c. 0.45%

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4. Convert the following percentages into decimals.

a. 3.5% b. 22% c. 2.5% d. 27.5%

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5. Find a. 15% of 7500g b. 12% of Rs 240 c. 8% of 120 km

6. Find the value of a if:

a. 1% of $a = 7$ b. 100% of $a = 100$ c. 12% of $a = 18$ d. 40% of $a = 384$

7. What percentage of

a. 40 m is 10 m ? b. 7 litres is 1.4 litres?

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8. If Rs 60 is reduced by 20% , find the decreased amount.

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9. The population of a town increases 10 % annually. If the present population is 1,54,000, what was the population of the town a year ago?

10. Anita has obtained 450 marks in an examination. If she obtained 75 % of the total marks, find the total marks.

11. A nursery has 5000 plants. 10% of these plants are roses and 35% are daisies. What is the total number of other plants?

12. An ally of tin and copper consists of 24 parts of tin and 136 parts of copper. Find the percentage of copper in the alloy.

13. In an examination, 15% students failed and 425 students passed. Find the number of students who failed in the examination, 15% students failed and 425 students passed. Find the number of students who failed in the examination.

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14. In a box of electric bulbs, 12% are defective. If 176 bulbs are good, how many

bulbs are there in the box?

15. A box contains 140 sweets. These sweets are divided amongst Rahul, Prateek, Arun, and Ashish in the ratio $2:3:4:5$, respectively. Find the percentage of sweets received by each of the four friends. Also, find the number of sweets received by each friend.

16. An IPL cricket team won 7 matches this year as against 10 matches last year. What is the decrease percentage of the matches won by the team?

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17. What will be the cost price of an item if it is sold for Rs 187 after a loss of 15% ?

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18. Rohit's salary was increased by 10% to Rs 41,800. Find his salary before the increase?

19. A book was bought for Rs 560 and sold for Rs 630. Find the gain and gain per cent.

20. Find the sale price of a table for which the cost price is Rs 650 and the gain is 6%.

21. A company intoduces a special packing of mixed fruit juice with 20% extra juice at no extra cost. If the special pack contains 660mL of juice, find the content of the standard pack.

22. A shopkeeper sells an item for Rs 322, making a profir equal to $\dfrac{1}{6}$ of the cost price.

Find the gain per cent and the cost price.

23. The height of a plant increases by 16% in one week. If the increases height is 29 cm, find the original height.

24. Shikha sells dinner sets at Rs 8,960. In a day she sells 8 sets and makes a profit of Rs 7,680.

Find the cost price and the gain per cent of 1 dinner set.

25. Reena spent Rs 1200 on getting a table polished and then sold it for Rs 13,208 at 4% gain. Find the cost price of the table.

26. A mixed grain flour is made by mixing 2 parts of mixed grains and three parts of wheat flour. If the mixed grains cost Rs 40 per kg and wheat costs Rs 30 per kg, find at what price the mixed grain flour needs to be sold to make a profit of 10 %

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