

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 13

CHAPTER NAME : PERCENTAGE

SUB-TOPIC : EXPRESSING A FRACTION AND DECIMAL AS PERCENTAGE

CHANGING YOUR TOMORROW



PERCENTAG

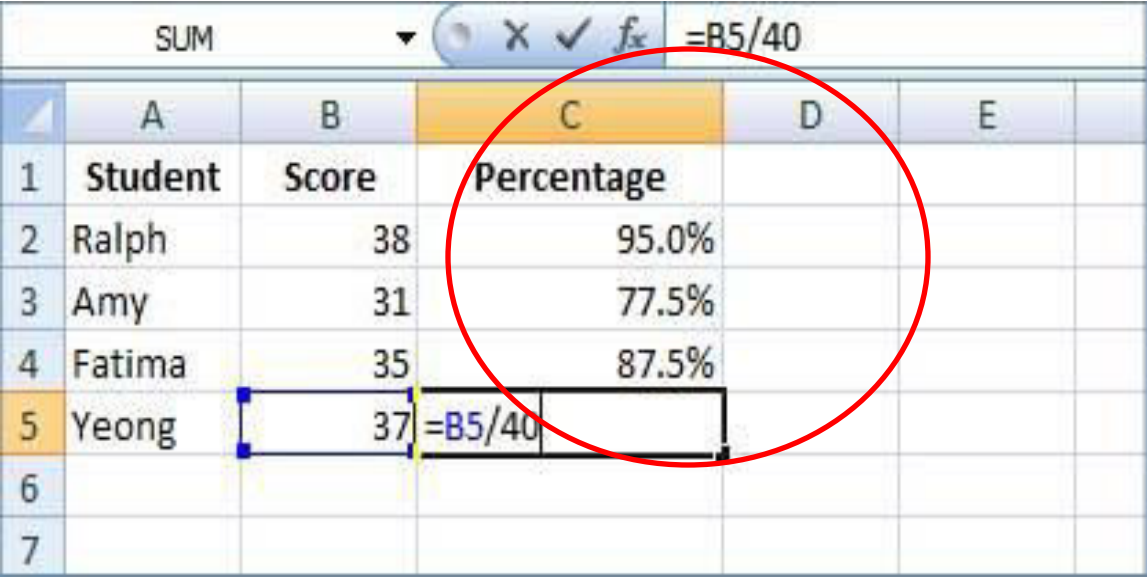
E

A fractional number with hundred as the denominator is called as Percentage.

%

The symbol of percentage

WHERE HAVE I SEEN % ?



	A	B	C	D	E
1	Student	Score	Percentage		
2	Ralph	38	95.0%		
3	Amy	31	77.5%		
4	Fatima	35	87.5%		
5	Yeong	37	=B5/40		
6					
7					



FINDING PERCENTAGE %

$$\begin{aligned} \text{a. } & \frac{17}{40} \\ & \frac{17}{\frac{40}{2}} \times \frac{5}{100} = \frac{85}{2} = 42.5\% \end{aligned}$$

MULTIPLY
100

$$\text{b. } 0.8974 = 0.8974 \times 100 = 89.74\%$$



FINDING FRACTION OR DECIMAL

$$\text{a. } 43 \% = \frac{43}{100}$$

$$\text{b. } 66 \% = \frac{66}{100}$$

DIVIDE 100



EXERCISE 13 A

1. Express the following as percentage.

a. $\frac{37}{100} = 37\%$

b. $\frac{18}{100} = 18\%$

2. Express the following as fraction with 100 as denominator.

a. $41\% = \frac{41}{100}$

b. $56\% = \frac{56}{100}$



EXERCISE 13 A

3. Express the following as percentage.

$$\text{a. } \frac{1}{4} = \frac{1}{\cancel{4}} \times \frac{25}{\cancel{100}} = 25\%$$

$$\text{b. } \frac{9}{10} = \frac{9}{\cancel{10}} \times \frac{10}{\cancel{100}} = 90\%$$

4. Express the following as fraction in its lowest term.

$$\text{a. } 38\% = \frac{38}{100} = \frac{19}{50}$$

$$\text{b. } 47\% = \frac{47}{100}$$



EXERCISE 13 A

5. Express the following as decimal fraction

a. $13\% = \frac{13}{100} = 0.13$

b. $24\% = \frac{24}{100} = 0.24$



LEARNING OUTCOME :

Enable the students

- To convert fractions to percentage
- To convert decimals to percentage

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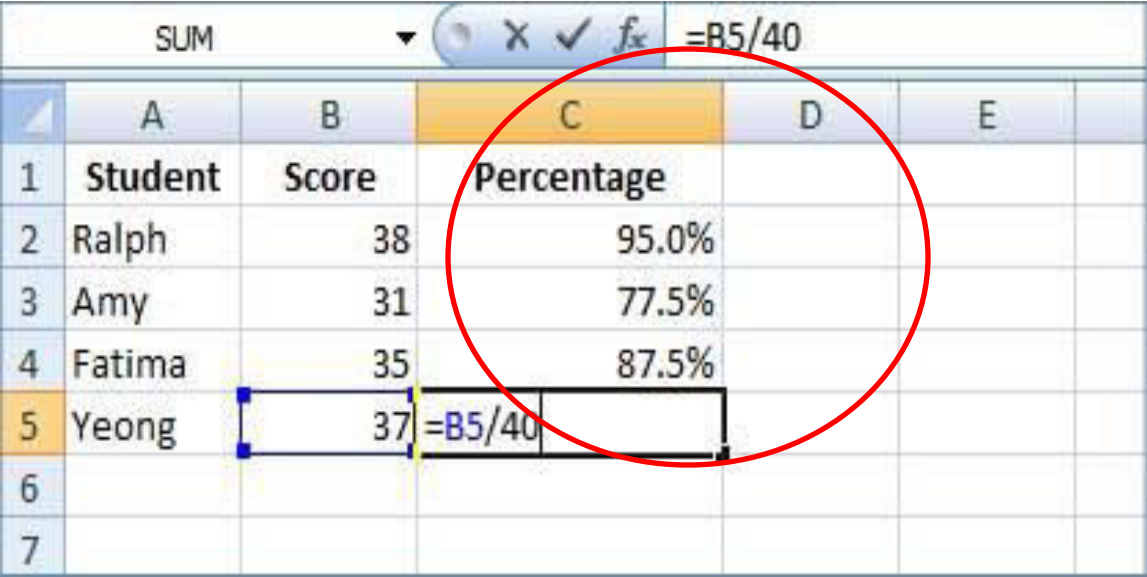
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EXERCISE 13 A

6. Express the following as percentage.

a. $0.58 = 0.58 \times 100 = 58\%$

b. $0.483 = 0.483 \times 100 = 48.3\%$



EXERCISE 13 A

7. Which of the following is equivalent to 5% ?

i. 0.5

ii. 0.05

iii. 5

iv. 0.005

$$\frac{5}{100} = 0.05$$

8. Which of the following is equivalent to 12.5% ?

i. 1.25

ii. 0.0125

iii. 125

iv. 0.125

$$\frac{12.5}{100} = \frac{125}{10} \times \frac{1}{100} = \frac{125}{1000} = 0.125$$



EXERCISE 13 A

9. Which of the following is equivalent to 7.5 ?

i. 75 %

ii. **750%**

iii. 0.75%

iv. 7.5 %

$$7.5 \times 100 = 750\%$$

10. Which of the following is equivalent to 6.08 ?

i. 60.8 %

ii. 6.08%

iii. **608%**

iv. 0.608 %

$$6.08 \times 100 = 608\%$$



The logo for 'Learning Outcomes' features the words 'Learning' and 'Outcomes' in a large, bold, black font with a yellow outline. Above the letter 'i' in 'Learning' is a small red apple with a green leaf. To the left of the word 'Outcomes' is a blue graduation cap with a tassel.

Learning Outcomes

Students are able to:

- Find the percentage of a given fraction**
- Find the percentage of a given decimal.**
- Find the fraction if percentage is given.**
- Find the decimal if percentage is given.**

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SUB-TOPIC : TO FIND PERCENTAGE OF A GIVEN QUANTITY.

EXERCISE 13 B Q.NO. 1 & 2

CHANGING YOUR TOMORROW

PERCENTAGE

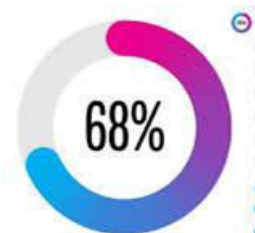
To find the percentage :

1. Convert the percentage as fractions.
2. Then multiply the given quantity.

Example: Find the 35% of
700

$$\frac{35}{10} \times 700 = 245$$

Converted to
fraction



PERCENTAGE

EXERCISE 13

B

1. Find

$$\text{a. } 35\% \text{ of } 700 = \frac{35}{100} \times 700 = 245$$

$$\text{b. } 19\% \text{ of } 600 = \frac{19}{100} \times 600 = 114$$

$$\text{c. } 21\% \text{ of } ₹1800 = \frac{21}{100} \times 1800 = ₹ 378$$

$$\text{d. } 16\frac{2}{3}\% \text{ of } ₹3000 = \frac{50}{3} \times \frac{1}{2} \times 3000 = ₹ 500$$



PERCENTAGE

EXERCISE 13

B

2. Express

a. 15 paise as percentage of ₹ 1 = $\frac{15}{100} \times 100 = 15\%$

b. 20 as percentage of 25 = $\frac{20}{25} \times 100 = 80\%$

c. 6cm as percentage of 1 m = $\frac{6}{100} \times 100 = 6\%$

d. 5 cm as percentage of 2 m = $\frac{5}{200} \times 100 = 2\frac{1}{2}\%$



PERCENTAGE

EXERCISE 13 B

2. Express

e. 12 g as percentage of 500 g = $\frac{12}{\cancel{50}05} \times \cancel{100} = 2\frac{2}{5}\%$

f. 10 L as percentage of 15 L = $\frac{10}{\cancel{15}3} \times \frac{20}{\cancel{100}} = \frac{200}{3} = 66\frac{2}{3}\%$





- **Complete exercise 13 B Q.No.1 & 2 bit h and i in the notebook.**

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Learning Outcomes

Students are able to:

- Find the percentage of a given quality.**

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SUB-TOPIC : WORD PROBLEMS

EXERCISE 13 B Q.NO.3 TO 7

CHANGING YOUR TOMORROW

Word problems on Percentage

Example: In a class of 50 students 30 are girls. What is the percentage of girl in the class.

Solution:

Total students = 50

No. of girls = 30

Percentage of girls =

$$\frac{30}{50} \times \overset{2}{\cancel{100}} = 60 \%$$



PERCENTAGE

EXERCISE 13 B

3. In a class 10 % of the students failed in maths. There are 50 students in the class. Find how many students failed in Maths. Also find the number of students who passed.

Total students= 50

Percentage of failed students = 10%

$$\text{No. of students failed} = 10 \% \text{ of } 50 = 50 \times \frac{10}{100} = 5 \text{ students}$$

$$\text{No of students passed} = 50 - 5 = 45 \text{ students}$$

Thus, **5** students failed and **45** students passed in Maths.



PERCENTAGE

EXERCISE 13 B

4. A basket contains two dozens of mangoes. 25% of the mangoes are bad. Find the number of good mangoes.

Total mangoes , Two dozen = 24

Percentage of bad mangoes = 25%

No. of bad mangoes = 25 % of 24 = $\cancel{24} \times \frac{\cancel{25}}{\cancel{100}} = 6$ mangoes.

No of good mangoes = 24 – 6 = 18 mangoes.

Thus, **18** mangoes are good.



PERCENTAGE

EXERCISE 13 B

5. In a quiz competition , Amit answered 80% of questions correctly. If he was asked 35 questions , how many questions he got correct?

Total questions asked , = 35

Percentage of correct answers = 80 %

$$\text{No. of correct answers} = 80 \% \text{ of } 35 = \frac{35 \times 80}{100} = 28$$

Thus, Amit got **28** correct answers.



PERCENTAGE

EXERCISE 13

B

6. Abhishek got 684 marks out of 900 marks. Express this as percentage.

Total marks = 900

Marks secured = 684

$$\text{His percentage of marks} = \frac{\cancel{684} \times \cancel{100}}{\cancel{900}} = 76\%$$

Thus, Abhishek got **76 %**.



EXERCISE 13 B

7. Rakesh got 20 out of 25 in English, 31 out of 40 in Hindi and 65 out of 80 in Maths. In which subject his percentage of marks is the best?

Total marks in English = 25

Marks got in English = 20

$$\text{Percentage in English} = \frac{20}{25} \times \frac{100}{4} = 80\%$$

Total marks in Hindi = 40

Marks got in Hindi = 31

$$\text{Percentage in Hindi} = \frac{31}{40} \times \frac{100}{2} = \frac{155}{2} = 77.5\%$$

Total marks in Maths = 80

Marks got in Maths = 65

$$\text{Percentage in Maths} = \frac{65}{80} \times \frac{100}{4} = \frac{325}{4} = 81.25\%$$

Thus, in **Maths** his percentage of marks is the best.





- Complete exercise 13 B q.no. 8 to 10 in the notebook.**

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