Mathematics

Quarter 2 – Module 4:
Finding the Percentage, Base and Rate in a Given Problem

ALTERNATIVE DELIVERY MODE

ADM

Mathematics– Grade 6
Alternative Delivery Mode
Quarter 2 – Module 4: Finding the Percentage, Base and Rate in a Given Problem
First Edition, 2020

Development Team of the Module

Authors: Virgilio C. Failanza Jr., Rosemarie D. Aclan, Collin G. Sales,

Marilou G. Dormis, Charlyn Joy A. Estimera, Lalyn G. Lumandog,

Realyn F. Crispe, Rogilyn V. Nicolas, and Salvacion V. Emberga

Editors: Rebecca O. Billones, Ma. Portia Gencianeo Galanto and Collin G. Sales

Reviewers: Elleda Ebreo de la Cruz and Collin G. Sales

Illustrator: Virgilio C. Failanza Jr.

Layout Artist: Felizardo S. Valdez III

Management Team: Ramir B.Uytico
Pedro T. Escobarte, Jr.
Elena P. Gonzaga
Donald T. Genine
Ma. Roselyn J. Palcat
Nordy D. Siason, Jr.
Rowena S. Carillo
Rosemarie D. Aclan
Arthur J. Cotimo
Felizardo S. Valdez III
Marve E. Gelera

6

Mathematics
Quarter 2 – Module 4:
Finding the Percentage, Base and Rate in a Given Problem

DepED
DEPARTMENT OF EDUCATION

What I Need to Know

This module was designed and written with you in mind. It is here to help you master the lessons on Finding the Percentage, Base and Rate or Percent in given problems. The scope of this module permits it to be used in many different learning situations. The language used recognizes your diverse vocabulary level. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is divided into three lessons, namely:

- Lesson 1 – Finding the Percentage in a Given Problem
- Lesson 2 – Finding the Rate in a Given Problem
- Lesson 3 – Finding the Base in a Given Problem

After going through this module, you are expected to:

1. identify the percentage, rate and base in a given problem;
2. find the base, percentage or rate or percent in a given problem; **(M6NS-IId-142)** and,
3. solve routine and non-routine problems involving the percentage, rate and base using appropriate strategies and tools**. (M6NS-IId-143)**

2

What I Know

A. Solve what is asked. Write the letter of the correct answer on your answer sheet.

1) What is 5% of 12?
   A. 60   B. 0.6   C. 0.7   D. 0.8

2) What is 10% of 25?
   A. 2.3   B. 2.4   C. 2.5   D. 25

3) Fifteen percent of 45 is what number?
   A. 6.70   B. 6.73   C. 6.74   D. 6.75

4) Twelve percent of 60 is what number?
   A. 7.2   B. 7.3   C. 7.4   D. 7.5

5) What number is 25% of 80?
   A. 20   B. 2.0   C. 21   D. 2.2

B. Read and solve the problems. Show your solutions on your answer sheet. Label your final answers.

1) Trexie Joy has 110 pieces of bond paper. She used 30% for her Portfolio. How many pieces did she use?

2) During the baseball practice, 50% out of 250 balls were used. How many balls were used during the baseball practice?

3) In a virtual meeting, there are 550 registrants. Due to unstable internet connection, only 80% were able to attend. How many participants were not able to make it?

4) Six hundred seventy persons were tested of RT-PCR. In a result, 80% were tested negative. How many were tested positive?

5) David Michael receives ₱135 from his sister as a help which is 10% of the money he gets from his mother. How much does his mother give him?

3

Finding the Percentage in a Given Problem

In this lesson, you will apply your previous knowledge in changing percent to decimal as well as multiplying decimals. Finding the percentage is easy if you are good in multiplying numbers.

What's In

A. Identify the base, rate, and percentage by completing the table below. The first one is done for you. Write your answers on your answer sheet.

Statement	Base	Rate	Percentage
1. 2% of 30 is 0.6	30	2%	0.6
2. 12 is 50% of 24			
3. 15% of 100 = 15			
4. 6% of 900 is 54			
5. 90% of 50 = 45			
6. 15 is 60% of 25			

B. Find the percentage of a number.

1) What is 6% of 12?

2) What is 15% of 45?

3) Twenty percent of 80 is what number?

4) Sixteen percent of 68 is what number?

5) What number is 90% of 80?

What's New

Read and study the following problem:

> Twenty-five percent of Daisy's 20 potted plants are peppers. How many potted plants are peppers?

What is It

Use the four-step problem-solving approach to help you.

Understand

What information are given?

We know that there are 20 potted plants and 25% of these are peppers.

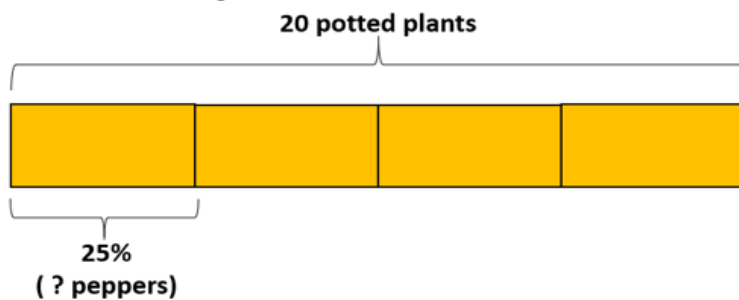*What is asked?*

We need to find how many potted plants are peppers.

This is a part of the total number of potted plants. So, we are looking for the **percentage.**

Plan

We can use different methods to solve the problem.
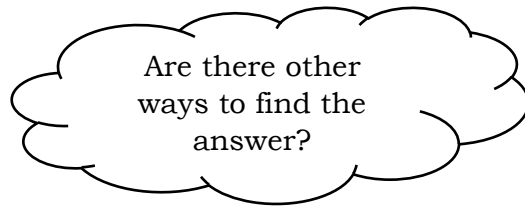
Solve

Method 1: Using a block model

20 potted plants

25%
(? peppers)

100 % ⟶ 20

25% ⟶ 20 ÷ 4 = 5

5

Method 2: Expressing percent to fraction

25% of potted plants = 25% of 20

$$= \frac{25}{100} \text{ x } 20$$

$$= \frac{1}{4} \text{ x } 20$$

$$= 5$$

Are there other ways to find the answer?

Method 3: Expressing percent as decimal

25% of potted plants = 25% of 20

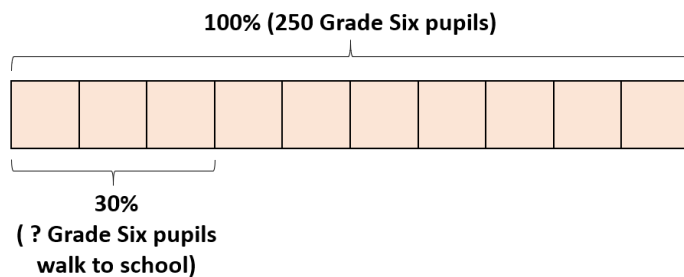$$= 0.25 \text{ x } 20$$

$$= 5$$

Check   Each method gives us the same answer.

Answer   **5** potted plants are peppers.

Here are more examples.

In an elementary school, 30% of the 250 Grade Six pupils walk to school. How many Grade Six pupils walk to school?

Method 1: Using a block model

100% (250 Grade Six pupils)

30%
(? Grade Six pupils walk to school)

100% → 250
10% → 250 ÷ 10 = 25
30% → 25 x 3 = 75

Method 2: Using a formula

P = R x B
= 30% x 250
$= \frac{30}{100}$ x 250
$= \frac{3}{10}$ x 250

Think:

What number   is 30%   of 250?

↓   ↓   ↓

Percentage   =   Rate   x   Base
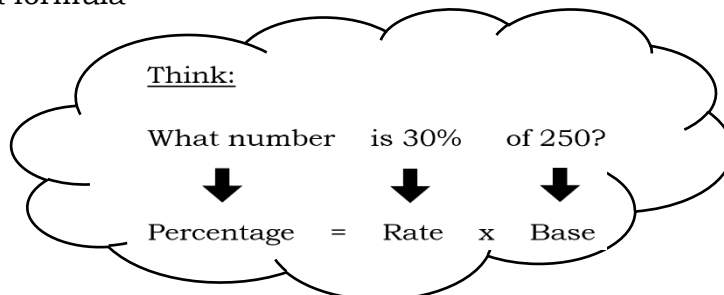
Answer: 75 Grade Six pupils walk to school.

6

Two books cost ₱225. The cost of Book A is 80% of the cost of Book B. How much does Book A cost?

80%

Book A

₱225

Book B

100%

18 units = ₱ 225   Book A = 8 units

1 unit = 225 ÷ 18   Book A = 8 x 12.5
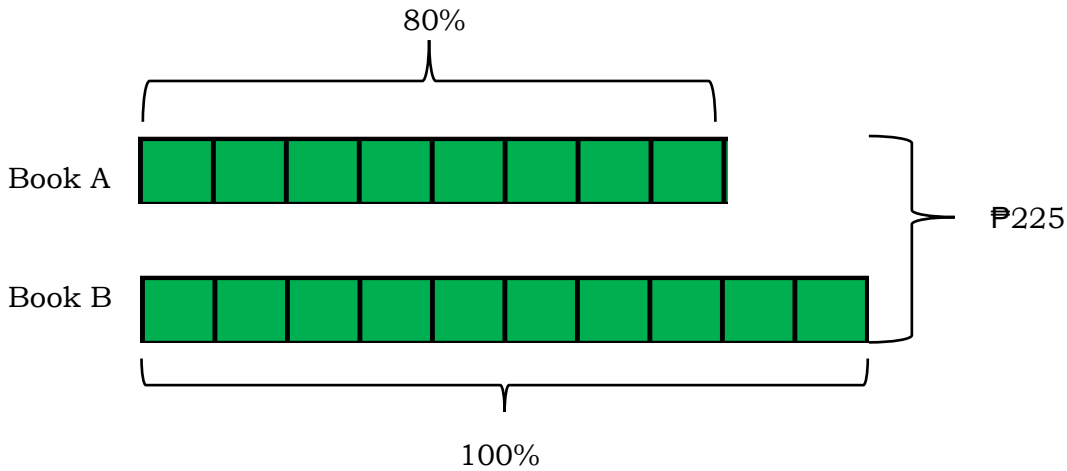
1 unit = 12.5   Book A = ₱ 100

Harvey's weekly salary is ₱4500. He sets aside 40% of this for his daily expenses and 25% of the remaining as savings. How much does

100% ➔ ₱4500

1 unit = 10%
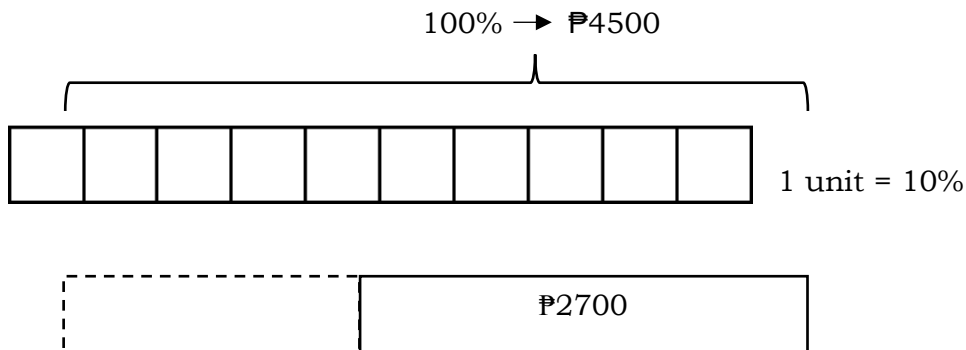
₱2700

100% ➔ 4500   Since the remaining amount is 60%

➔ 4500 ÷ 100   60% ➔ 60 x 45 = 2700

1% ➔ 45   60% ➔ 2700

To answer the second question, you may ask, what is 25% of 2700?

1 unit = 27

100% ➔ ₱2700

➔ 2700 ÷ 100   25% ➔ 25 x 27 = 675

1% ➔ 27   25% ➔ 675

Answer: ₱675- Harvey's savings

7

What's More

A. Find what is asked. Write your solutions on your answer sheet.

1) What is 40% of 90?

2) Twenty-five percent of 120 is what number?

3) What number is 20% of 130?

4) Eighteen percent of 150 is what number?

5) What is 30% of 960?

B. Study the following problems. Show your complete answer on your answer sheet.

1) Genoveva answered 98% of a 50-item test correctly. If her friend Nenita made 4 more mistakes than Genoveva, how many points did Nenita get?

2) There are 450 pieces of pencils. Twelve percent of these are TW pencils. How many pencils are TW?

$$12\% = 12\% \text{ of } 450$$

$$= \frac{\quad}{\quad} \times 450$$

$$= \frac{\quad}{\quad} \times 450$$

$$= \square$$

8

What I Have Learned

- Percentage is the actual amount that represents part of a whole. It can be found given the percent (rate) and the whole amount (base).
- Percentage can be calculated by using the formula, $P = R \times B$.
- When solving problems that involve finding percentages, the four-step problem-solving approach (Understand, Plan, Solve and Check) can be helpful.

What I Can Do

A. Find out the hidden word by filling in the blanks with the letter of your answer. Choose your answer from the choices inside the box.

_____ _____ _____ _____ _____
   1.   2.   3.   4.   5.

1) _____ is 20% of 20

2) What is 90% of 50?

3) Eighty percent of 150 is _____

4) The sum of 10% of 60 and 75% of 20 is _____.

5) The product of 5% of 40 and 8% of 50 is _____.

A. 50	I. 150	O. 21
B. 30	J. 120	R. 40
E. 4	N. 45	Y. 8

B. Read and solve the problems. Show your solutions on your answer sheet. Label your final answers.

1) The periodic test in Mathematics has 50 questions. If Joy got 90% correct answers, how many questions did she miss?

2) In school, 15% of the Math teachers are males. If there are 20 Math teachers in school, _____ of them are females?

3) Six percent of the fishes in the pond are Sword Fish. If there are 1400 fishes in the pond, how many are Sword Fish?

4) Hazel Joy gives 15% of her monthly salary to her mother. If her monthly salary is ₱25 500. How much will she give to her mother every month?

5) In a 75-item test, DM got a correct score of 96%. Is it true that DM missed 5 items of the test? Prove your answer.

Assessment

A. Find the percentage in the given problems below. Choose the letter of the correct answer and write it on your answer sheet.

1) What is 5% of 30?
   A. 0.15   B. 1.05   C. 1.5   D. 15

2) What is 10% of 60?
   A. 10   B. 6   C. 0.6   D. 1.0

3) Fifteen percent of 65 is what number?
   A. 9.75   B. 97.5   C. 9.57   D. 95.7

4) Twenty percent of 80 is what number?
   A. 0.16   B. 1.6   C. 1.60   D. 16

5) What number is 25% of 130?
   A. 32.5   B. 35.2   C. 23.5   D. 25.3

B. Solve what is asked. Show your solutions on your answer sheet and label your final answers.

6) At Alcona Resort, 8% of the visitors are foreigners. If there are 225 visitors at the resort, how many visitors are foreigners?

7) Vic saves 9% of his salary each month. If Vic's salary is ₱16 000, how much is Vic's monthly savings?

8) In a fast food outlet, there are 50 service crew. Ninety-two percent of crew are men and the rest are women. How many service crew in a fast food outlet are men?

9) Fifteen percent of the 60 participants who attended the Mathematics Investigation Training were males and the rest are females. How many participants were females?

10) Vangie is a rice seller. She earns a profit of 15% for every kilogram at ₱45. She was able to sell 55 kilograms of rice. How much profit did she earn?

Additional Activities

A. Modified True or False: Write True if the statement is correct. If it is false, replace the italicized number/word to make the statement true. Write your answers on your answer sheet.

1) *Fifteen percent* of 25 is 1.25.

2) Ten percent of 90 is *9.*

3) *Twenty percent* of 10 is 2.

4) *3.46* is 6% of 56?

5) Twelve is *18%* of 80.

6) There are 45 students in a class. If *80%* are present on that day, 9 of the students are absent.

7) In a class of 40 students, 55% are boys. Therefore, there are 22 boys and *16 girls*.

B. Solve what is asked. Show your solutions on your answer sheet. Label your final answers.

8) The school successfully implemented 85% of their planned activities in the School Improvement Plan. If there were 20 planned activities, how many activities were successfully implemented?

9) In a 35-kilogram of mixed nuts, 23.15% were cashew nuts. How many kilograms of cashew nuts were there in the mixed nuts?

10) A fruit basket contains 25 different kinds of fruits. Sixty-four percent of which are mangoes and 16% are avocados. How many of the fruits are mangoes and avocados?

Answer Key

What I Know

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

B
1) 33 pieces
2) 125 balls
3) 110 person
4) 134 positive
5) ₱1 350

What's In

A.

Base	Rate	Percentage
1) 30	2%	0.6
2) 24	50%	12
3) 100	15%	15
4) 900	6%	54
5) 50	90%	45
6) 25	60%	15

B
1) 0.72
2) 6.25
3) 16
4) 10.88
5) 72

What's More

A.
1) 36
2) 30
3) 26
4) 27
5) 288

1)
45 = 90%
100% = 50   98% = 98 × 0.5
1% = 50 ÷ 100   1% = 0.5
Geneveva's score
49 − 4
45 Nenita's score

2) $\frac{12}{100}$ x 450 = $\frac{3}{25}$ x 450 = 54

What I Can Do

A. 1.E   2.N   3.J   4.O   5.Y
B. 1.5
2. 17
3. 84
4. ₱3 825
5. False. Answers may vary

Assessment

1) C
2) B
3) A
4) D
5) A
6) 18 foreigners
7) ₱1 440 savings
8) 46 men
9) 51 females
10) ₱371.25 profit

Additional Activities

A
1) 5%
2) True
3) True
4) 3.36
5) 15%
6) True
7) 18 girls

B
8) 17 planned activities
9) 8.1025 kilograms
10) 16 mangoes, 4 avocados

13

What I Know

A. Match column A with column B. Write the letter of the correct answer on your answer sheet.

Column A	Column B
1) What percent of 40 is 5?	A. 6%
2) Twenty-seven is N% of 180. What is N?	B. 12%
3) Thirty is what percent of 120?	C. 12.5%
4) What percent of 400 is 24?	D. 8%
5) Forty-two is what percent of 350.	E. 25%
	F. 15%

B. Analyze and solve the problems below. Do it on your answer sheet.

1) Roman knocks 9 cans out of 15. What percent of cans did he knock? Draw a model to solve this problem.

2) Forty-three out of 86 rubber band are red. What percent are red? Use equivalent fraction method to solve the problem.

3) The original price of a bike is ₱ 6 500. Carlo pays ₱ 5 525. What is the percent sale?

4) At the party, there are 400 balloons used. One hundred of the balloons are blue. What percent are blue?

5) Mrs. Cruz called for a P.T.A. meeting. Eighteen were absent. If there are 120 parents in all, what percent were present?

14

Lesson 2	Finding the Rate or Percent in a Given Problem

In this lesson, you are expected to apply carefully your knowledge in division especially on division of decimals. A step-by-step process on how to find the rate or percent in a given problem will be illustrated to you. You have to analyze each step very well in order to be guided on how to go about the whole procedures.

What's In

A) Find what is asked. You can use any methods in solving for the percentage. Write your solutions on your answer sheet.

1) What is 25% of 700?

2) Forty-five percent of 325 is what number?

3) What number is 20% of 130?

4) In a class of 52 children, 75% are boys. How many girls are there in the class?

5) What is 32% of 137?

What's New

Read and study the following problems:

> A school chess club has 50 members. Twenty-nine of them are girls. What percent of the chess club are girls?

15

Use the four-step problem-solving approach to help you.

Understand

What information are given?

> We know that 29 out of 50 members of the school's chess club are girls.

What is asked?

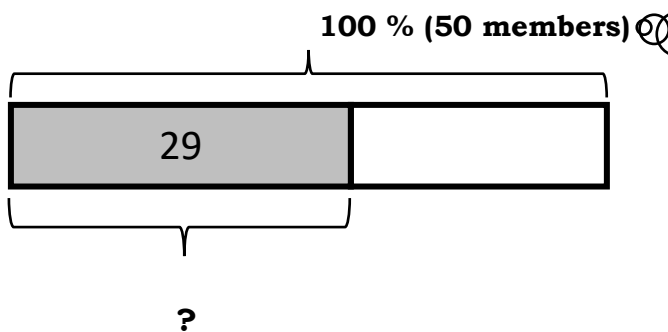> We need to find how many how many percent of the chess club are girls.
>
> This means that we are looking for the rate.

Plan

We can use different methods to solve the problem.

Solve

Method 1: Using a block model

100 % (50 members)

29

?

> The total number of members in the chess club is equal to 100%.

50 members ⟶ 100%

1 member ⟶ 100% ÷ 50 = 2%

29 members ⟶ 2% x 29 = 58%

16

Method 2: Using equivalent fractions

29 out of 50 members are girls

$$\frac{29}{50} = \frac{?}{100} = \frac{58}{100} = 58\%$$

Method 3: Using a formula

$$\text{Rate (R)} = \frac{\text{Percentage (P)}}{\text{Base (B)}} \text{ x } 100$$

$$= \frac{29}{50} \text{ x } 100\%$$

$$= 0.58 \text{ x } 100\%$$

$$= 58\%$$

What percent of **50** is **29**

Rate   x Base = Percentage

Check   Each method gives us the same answer.

Answer   **58%** of the chess club are girls.

What's More

Read and analyze the problems below. Show the complete answer on your answer sheet.

1) What percent of 30 is 6?

2) Fifteen is what percent of 25?

3) One hundred twenty-five is what percent of 500?

4) Twenty is what percent of 200?

5) What percent of 120 is 30?

17

6) There are 40 Grade 6 pupils in a class. If 30 are boys, what percent are girls?

$$100\% = 40 \text{ Grade 6 pupils}$$
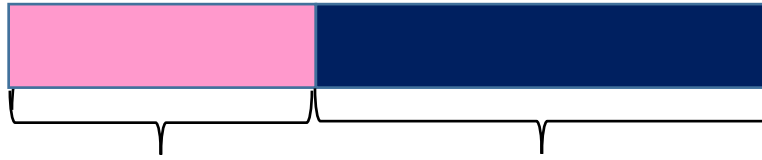
[ ] ⟶ [ ] Girls   [ ] = 30 boys

100% ⟶ [ ]   25% ⟶ [ ] x [ ]

1% ⟶ [ ] ÷ [ ]   25% ⟶ [ ] ⟶ number of girls.

1% ⟶ [ ]

7) There are 25 questions in a summative test. Three points are added for every correct answer and two points are deducted for every wrong answer. Joy gets a total score of 45. How many correct answers did she get? What percent of the total number of questions did she miss?

What I Have Learned

- Rate is the ratio of the percentage to the base. It is written in percent.
- Rate can be calculated by using the formula, $R = \dfrac{P}{B} \, x \, 100$.
- When solving problems that involve finding rates, the four-step problem-solving approach (Understand, Plan, Solve and Check) can be helpful.

18

What I Can Do

A. Match column A with the correct answer in column B. Write the letter of the correct answer on your answer sheet.

Column A	**Column B**
1) What percent of 64 is 8?	A. 10%
2) Twenty-five is what percent of 250?	B. 5%
3) What percent of 400 is 80?	C. 20%
4) Sixteen is what percent of 40?	D. 50%
5) What percent of 40 is 2?	E. 12.5%
	F. 40%

B. Solve what is asked. Show your solutions on your answer sheet and label your final answers.

6)   What percent of 300 is 75?

7)   Nick is a factory worker. He worked 9 months in a year. What percent of the year did he work?

8)   David Michael hits 12 out of 15 throws of the pitcher in baseball game. What percent of the throws did he miss?

9)   In a basketball game, Rex shoots 54 goals out of 72 shots. What is the percent of goals?

10) On October 27, 2020 data on COVID-19, out of 54 confirmed cases, there were 49 recoveries. How many percent were recovered from COVID-19? Round your answer to the nearest tenths.

19

Assessment

A. Match Column A with Column B. Write the letter of the correct answer on your answer sheet.

Column A

1) What percent of 40 is 10?
2) Thirty-six is what percent of 120?
3) What percent of 375 is 75?
4) Fifty is what percent of 1000?
5) Seven hundred thirty-two and seven tenths is what percent of 862?

Column B

A. 30%
B. 25%
C. 85%
D. 31%
E. 5%

F. 20%

B. Solve the following problems. Show your solutions on your answer sheet and label your final answers.

6) Reoiux James bought 50 noodles for his *sari-sari store*. Forty-two of which are beef. What percent of noodles are beef? Use equivalent fraction method to solve this problem.

7) Ivy paid ₱880.00 for her purchased groceries. Looking at her Official Receipt, she found out that there was a discount of ₱39.60. What was the percent of discount?

8) Christine Joy got a score of 47 out of 50 items in a Mathematics 6 test. What percent of the test did she answer incorrectly?

9) What is the shooting percentage of Joshua if he shoots 18 out of 20 free throws? Draw a model to solve this problem.

10.) In a Primary school, there are 45 parents. On a rainy day, 36 were present to get the modules. What percent of parents were able to get the modules?

Additional Activities

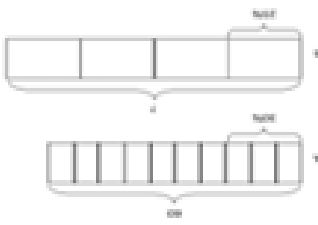Answer questions A and B for each given situation below. Do it on your answer sheet.

1) Tony bought an item in a department store with 10% discount and another 20% after the first discount.
   A. Is it right to say that he received 30% discount in the item he bought? Why?
   B. How much should he pay for the item he bought that cost ₱200?

2) Forty percent of 30 is ____ % of 60.
   A. Is the missing number greater than or less than 40%? Why?
   B. What is the missing rate?

3) Thirty percent of 60 is 20% of what number?
   A. Illustrate this problem using models.
   B. Are we looking for the rate in this problem? Why or why not?

What I Know

A. Solve what is asked. Write the letter of the correct answer on your answer sheet.

1) Forty percent of what number is 18?
   A. 72   B. 222   C. 45   D.720

2) Five percent of a number is 65. Find the number.
   A. 325   B. 1 300   C. 1 325   D.13

3) Twelve percent is 25% of what number?
   A. 45   B. 480   C. 300   D.48

4) Sixty is 3% of what number?
   A. 1 800   B. 180   C. 2000   D.200

5) One hundred-eight is 12% of a number. Find the number.
   A. 900   B. 1 296   C. 9   D.10

B. Read and solve the problems. Show your solutions on your answer sheet.
   Label your final answers.

6) Eight percent of the Grade 5 learners were absent in their virtual class. If 6 were absent, how many Grade 5 learners were there in all?

7) There was a Pre-Christmas sale of 15% on all items in a department store. Genie Rose pays ₱ 2 762.50 for a blouse. What is the original price?

8) Peter saves ₱ 17.50 which is 5% of the food he eats. How much is the total bill he paid?

9) Jonah bought a pair of socks at 35% less of the regular price. She paid ₱ 55.25 for a pair of socks. What was the original price?

10) Mr. Dell spends ₱ 3 000 in the Supermarket for their monthly consumption or 12% of his monthly family budget. How much is their family budget?

Finding the Base in a Given Problem

In this lesson, you are expected to apply carefully your knowledge in division especially on division of decimals. A step-by-step process on how to find the base in a given problem will be illustrated to you. You have to analyze each step very well in order to be guided on how to go about the whole procedures.

What's In

A. Modified True or False: Write True if the statement is correct. If it is false, replace the underlined number/word to make the statement true. Write your answers on your answer sheet.

1) Eight is <u>30</u> percent of 32?
2) <u>Fifty percent</u> of 60 is 30?
3) Sixty is <u>25%</u> of 300?
4) N% of 130 = 10. N is <u>7.69%.</u>
5) Forty-eight is <u>45%</u> of 120?

What's New

There are 72 Grade 6 pupils in a school. The Grade six pupils comprise 12% of the total enrolment. How many pupils are enrolled in a school?

In this lesson, you will learn on how to find the base in a given problem using the formula and different strategy.

What is It

We will use the four-step problem-solving approach to help you.

Understand

What information are given?

> We know that 12% of the total enrolment in the school is equal to 72 Grade Six pupils.

What is asked?

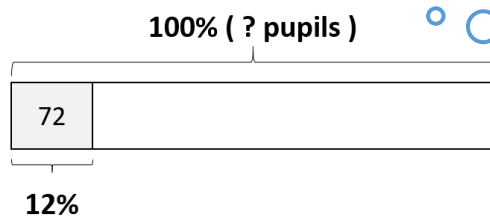> We need to find the total number of pupils in the school.
>
> This means we are looking for the **base**.

Plan

We can use different methods to solve the problem.

Solve

Method 1: Using a block model

100% (? pupils)

| 72 | |

12%

> The total number of members in the chess club is equal to...

12% of the enrolment → 72

1% of the enrolment → 72 ÷ 12 = 6
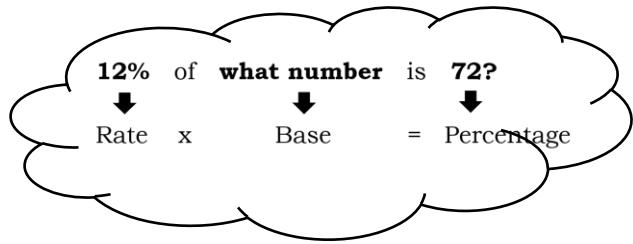
100% of the enrolment → 6 x 100 = 600

Method 2: Using equivalent fractions

$$\frac{12}{100} = \frac{72}{?} = \frac{72}{600}$$

x 6

x 6

> $12\% = \frac{12}{100}$

25

Method 3: Using a formula

$$\text{Base (B)} = \frac{\text{Percentage (P)}}{\text{Rate (R)}}$$

$$= \frac{72}{12\%}$$

$$= \frac{72}{0.12}$$

$$= 600$$

Check   Each method gives us the same answer.

Answer   **600** pupils are enrolled in the school.

Here is another example.

Percy thinks of a number. Thirty-seven percent of the number is 41.44. What is the number?

Use the four-step problem-solving approach to help you.

Understand

What information are given?   We know that 37% of that number is 41.44.

What is asked?

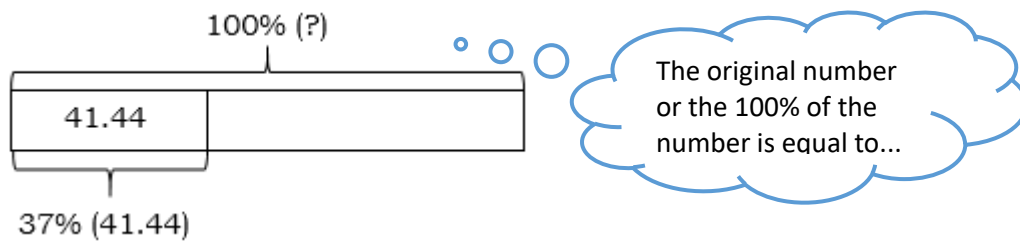We need to find what is the original number which is the 100% of that number.

This means we are looking for the **base**.

Plan
We can use different methods to solve the problem.

26

<u>**Solve**</u>

Method 1: Using a block model

$$37\% \text{ of the enrolment} \rightarrow 41.44$$
$$1\% \text{ of the enrolment} \rightarrow 41.44 \div 37 = 1.12$$
$$100\% \text{ of the enrolment} \rightarrow 1.12 \text{ x } 100 = 112$$

Method 2: Using equivalent fractions

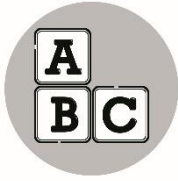**Method 3: Using a formula**

$$\text{Base (B)} = \frac{\text{Percentage (P)}}{\text{Rate (R)}}$$

$$= \frac{41.44}{37\%}$$

$$= \frac{41.44}{0.37}$$

$$= 112$$

37% of **what number** is **41.11**?

Rate   x   Base   = Percentage
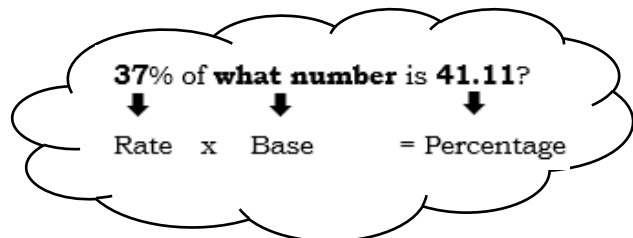
**Check**   Each method gives us the same answer.

Answer   <u>**112** is the number</u>

![ABC] **What's More**

Read and analyze the problems below. Show your complete answer on your answer sheet.

1) Twenty-five percent of ____ is 21.25?

2) Sixteen percent of what number is 8.96?

3) Find B when R = 25% and P = 125.

4) Forty-five percent of N is 54?

5) 25% (Twent-five percent) of a number is 30. Find the number.

6) Ten percent of the students in a Math class are absent. If there are 4 students who are absent, how many students are enrolled in a Math class?
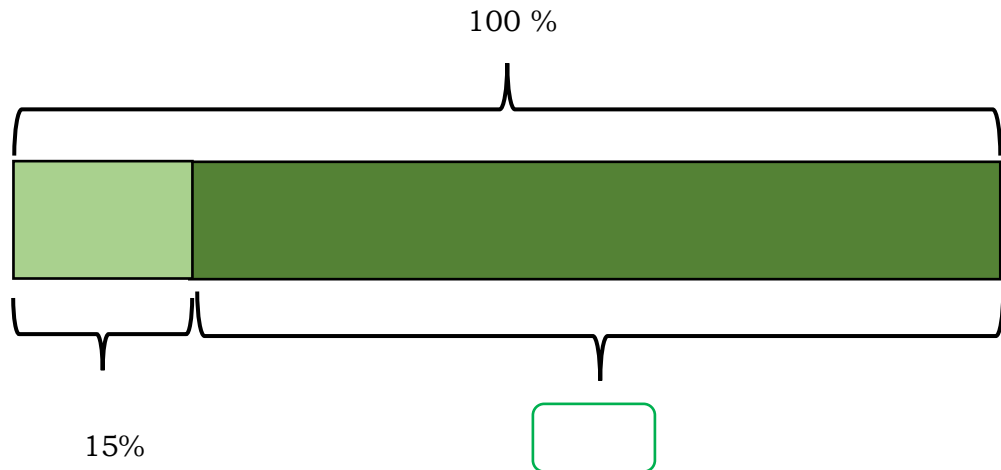
100 %

10%

10% = 4

1% = ☐ ÷ ☐

1% = ☐

100% = ☐ x ☐
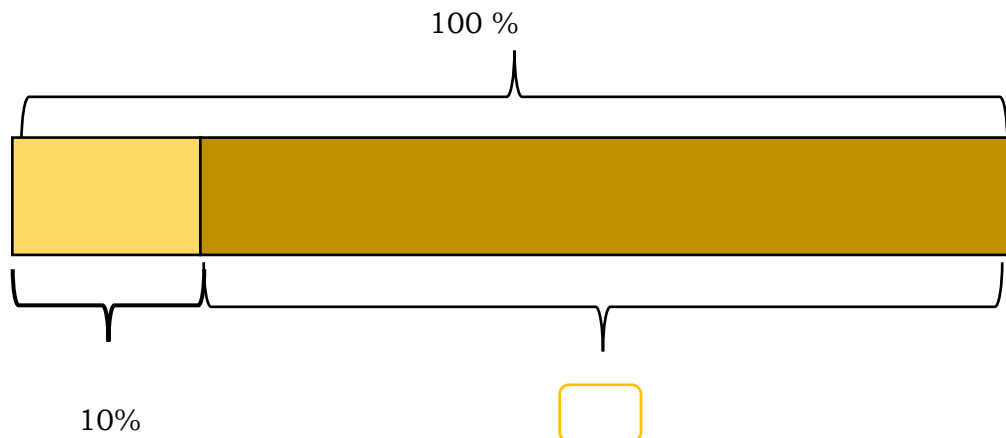
100% = ☐   number of students

enrolled in Math class

7) Mr. Catinan was able to save ₱ 27.75 on a pack of hotdogs. This amount is 15% of the original price. Find the original price of the pack of hotdogs.
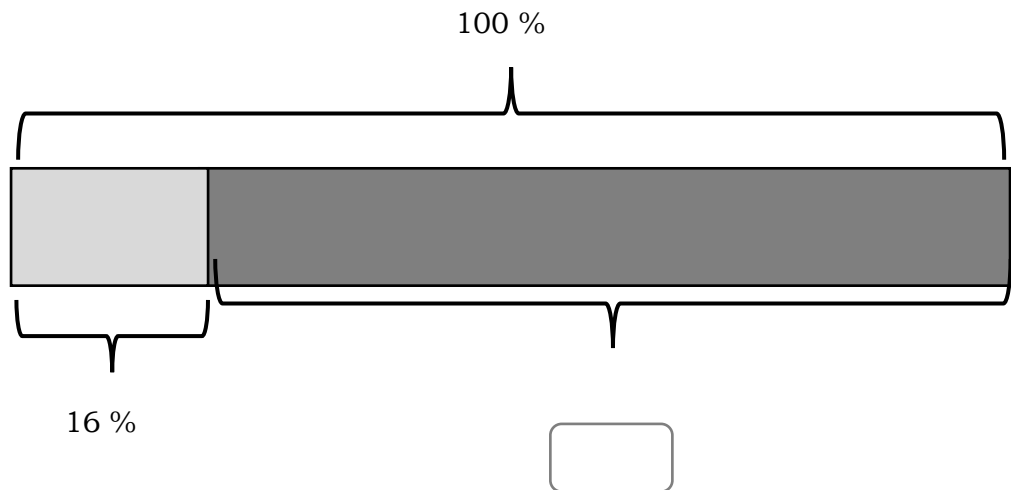
100 %

15%

15% = ₱27.75

1% = ☐ ÷ ☐

1% = ☐

100% = ☐ x ☐

100% = ☐   original price of the

pack of hotdogs

8) Sixteen percent of Portia's monthly salary is deducted for withholding tax. If the deducted amount is ₱11 000.00, how much is her monthly salary?

100 %

16 %

16% = ₱11 000

1% = ☐ ÷ ☐

1% = ☐

100% = ☐ x ☐

100% = ☐   monthly salary

29

What I Have Learned

- Base is the amount representing 100%. It is the whole from which a percent is taken from.
- Base can be calculated by using the formula, $B = \dfrac{P}{R}$.
- When solving problems that involve finding bases, the four-step problem approach (Understand, Plan, Solve and Check) can be helpful.

What I Can Do

Solve what is asked. Show your solutions on your answer sheet and label your final answers.

1) Twelve and five tenths percent of N is 8? What is N?

2) Twenty-five percent of a number is 63. Find the number.

3) Four hundred is 50% percent of what number?

4) Eighty percent of 240 is 25% of what number?

5) Seventy-two is 20% of what number?

6) Johnny bought a computer printer on sale at the store. The discount was 15% and he saved P1 350.00. What was the original price of the printer?

7) Forty-eight or 96% of the Grade 6 pupils joined the scouting activity. How many pupils were there in the Grade 6 class?

Assessment

A. Fill-in the blanks. Write the letter of the correct answer on your answer sheet.

1) 15 (fifteen) is 20% of _____. Find the number.
    A. 75   B. 80   C. 85   D. 90

2) Five percent (5 %) of _____ is 75.
    A. 1 300   B. 1 400   C. 1 500   D. 1 550

3) Seven percent of _____ is 34.3.
    A. 460   B. 470   C. 480   D. 490

4) 180 is 15% of _____.
    A. 1 010   B. 1 200   C. 1 020   D. 1 002

5) 22% _____ is 28.16. Find the number.
    A. 182   B. 128   C. 218   D. 281

B. Solve the following problems below using any of the methods learned. Do it on your answer sheet.

6) Virgie grows her hair 3.75 cm in the last three months. If the length is 12.5% of her hair three months ago, how long is her hair now?

7) Sheila is engaged in an online business. She started with an investment of ₱10 000.00. Due to the COVID-19 pandemic, her business becomes in demand. In March, she gained 5% profit and added to her investment. She continuously adds her profit to her investment thereafter and gains 10%, 25%, and 40% in the succeeding months until June 2020. How much is her total investment by the end of June?

8) Sherwin recorded his monthly savings deposit in the bank. He started at ₱5 000.00 in January 2020. In the succeeding months, he consistently adds 25% of his monthly standing balance into his savings account. How much will be his total savings in April 2020? Round your answer to two decimal places.

9) Mr. Perez saves 5% of his monthly salary. If he saves ₱ 1338.20. How much is Mr. Reyes' monthly salary?

10) Maricel had 15 red pony tail which is her favorite. The red pony tail is 15% of all the pony tail Maricel had. How many pony tail does Maricel had altogether?

Additional Activities

A. Create a problem using the given data below. Write your answer on your answer sheet.

1) | **?** | ⟶ 2010 population of the Municipality of Jordan
   3% ⟶ increased from 2009 population
   45 ⟶ 2009 population of the Municipality of Jordan

2) | **?** | ⟶ total number of pupils
   25% ⟶ boys
   3 ⟶ number of boys

3) ₱325 ⟶ sales tax
   5% ⟶ rate of sales tax
   | **?** | ⟶ total sales

4) | **?** | ⟶ total number of invited kids
   15% ⟶ did not show up
   45 ⟶ number of kids who did not show up

5) | **?** | ⟶ total test item
   24% ⟶ wrong answers
   12 ⟶ number of wrong answers

Answer Key

What I Know	What's More	Assessment
1) C	1) 85	A.
2) B	2) 56	1) A
3) D	3) 500	2) C
4) C	4) 120	3) D
5) A	5) 120	4) B
6) 75		5) B
7) ₱ 3250	6)	
8) ₱ 350	$10\% = \frac{4}{40}$ $100\% = 100 \times 0.4$ $1\% = 4 \div 10 = 0.4$	B.
9) ₱ 85	$\overline{90\%}$	6-10
10) ₱ 25 000	Possible answer:	Possible answer:
	number of student enrolled in Math class	6) 30 cm
What's In		7) ₱ 20 212.50
1) 25%	7)	8) ₱ 9 765.63
2) True	$15\% = ₱27.25$ $100\% = 100 \times 1.85$ $1\% = 27.75 \div 15 = ₱1.85$	9) ₱ 26 764
3) 20%	$\overline{85\%}$	10) 20
4) True	original price of a pack of hotdog	
5) 40%		**Additional Activities**
	8)	Possible answer:
What I Can Do	$16\% = ₱11\,000$ $100\% = 100 \times ₱687.50$ $1\% = ₱11\,000 \div 16 = ₱687.50$ $1\% = ₱687.50$	1) 1 500
1) 64	$\overline{84\%}$ monthly salary	2) 12
2) 252		3) ₱6 500
3) 800		4) 300
4) 768		5) 50
5) 360		
6) ₱ 9000		
7) 50		

33

References

- DepEd Most Essential Learning Competencies (MELC) in Mathematics for Grade 6