



What Is This Module About?

In the past, people told time by observing the sun and listening to the crow of the roosters. They knew it was about four o'clock in the morning when they hear the roosters crow. They knew it was about six o'clock in the morning when the sun rises and about six o'clock in the evening when the sun sets.

This module will teach you how to tell time by using clocks and watches. It will also teach you how to convert time from smaller to larger units (for example, from minutes to hours) and vice-versa as well as from 12-hour to 24-hour units (for example, from 12 a.m. to 24:00) and vice-versa. Finally, it will teach you how to relate time to distance, speed and volume of work.

This module is made up of three lessons:

Lesson 1 – *Reading and Recording Time*

Lesson 2 – *Computing Time*

Lesson 3 – *Relating Time to Distance, Speed and Volume of Work*



What Will You Learn From This Module?

After studying this module, you should be able to:

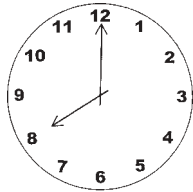
- ◆ read and record time using a clock;
- ◆ convert time from smaller to larger units and vice-versa;
- ◆ convert time indicated in 12-hour units to 24-hour units and vice-versa;
- ◆ solve time-related word problems;
- ◆ interpret timetables; and
- ◆ relate time to distance, speed and volume of work.

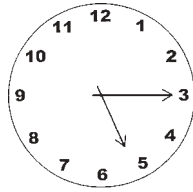


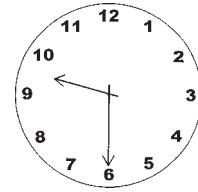
Let's See What You Already Know

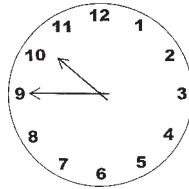
Before studying this module, take this simple test first to find out how much you already know about the topics in this module.

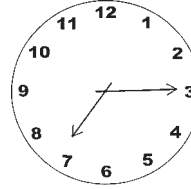
- A. Read the time in each of the clocks below. Write your answers in the spaces provided.











- B. Study the table below and answer the questions that follow.

Vessel Number	Port of Call
12	Cebu
14	Bacolod
9	Ormoc
8	Masbate
2/5	Surigao

1. What time does Vessel number 12 leave for Cebu?

2. What time does Vessel number 9 leave for Ormoc?

3. Convert the time 23:00 to a 12-hour unit.

C. Solve the following time-related problems.

1. A bus left for Barangay Uno at 6:30 a.m. and arrived in Barangay Mapayapa at 11:30 a.m. How many hours did the bus travel from Barangay Uno to Barangay Mapayapa?
2. It took Mang Pedro 120 minutes to reach the municipal hall from his home. How many hours did it take him to get there?
3. A car covered a distance of 120 km in two hours. What was the average speed of the car? (speed = distance \div time)
4. A bus leaves Cubao for Naga City at 8:00 p.m. It takes seven hours to get there. What time will the bus arrive in Naga City?

5. Willy arrived at the Paco Train Station at 6:00 a.m. He left his home province eight hours earlier. What time did he leave home?

Well, how was it? Do you think you fared well? Compare your answers with those in the *Answer Key* on pages 27–28.

If all your answers are correct, very good! This shows that you already know much about the topics in this module. You may still study the module to review what you already know. Who knows, you might learn a few more new things as well.

If you got a low score, don't feel bad. This means that this module is for you. It will help you understand some important concepts that you can apply in your daily life. If you study this module carefully, you will learn the answers to all the items in the test and a lot more! Are you ready?

You may now go to the next page to begin Lesson 1.

Reading and Recording Time

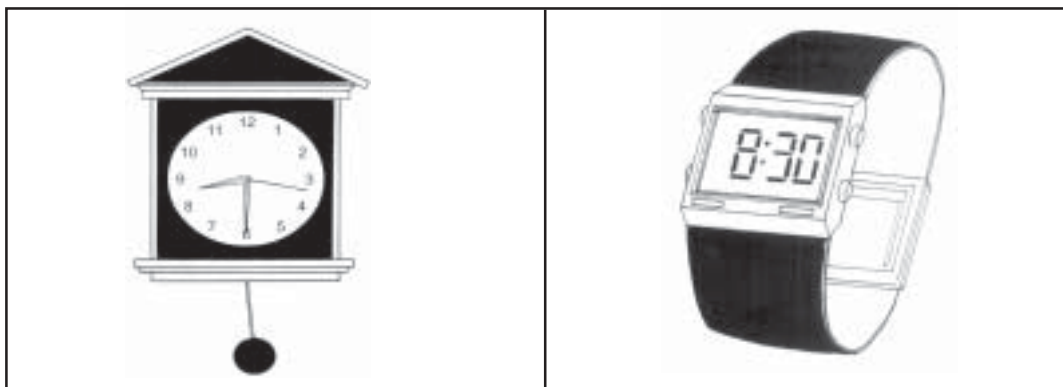
Time is very important to people. Knowing what time it is can prevent you from being late for your appointments. That way, you won't, for example, get reprimanded by your boss at work or your teacher in school.

This lesson will teach you all about reading and recording time. It features practical exercises that will help you convert time from smaller to larger units and vice-versa as well as convert time from 12-hour to 24-hour units and vice-versa.



Let's Study and Analyze

Watches and clocks help us tell time. Look at the illustrations below to see how.



By looking at the clock on the left, you can see that it is 8:30. The short hand on it indicates the hour, the long hand shows how many minutes have passed and the thin hand shows how many seconds have passed.

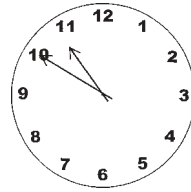
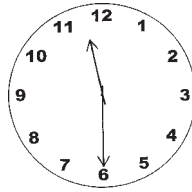
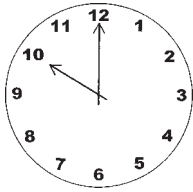
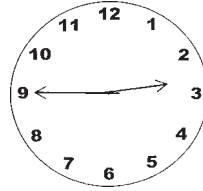
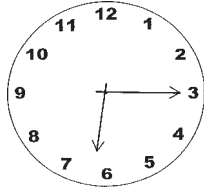
On the digital watch on the right, the same time is shown though a bit differently. The digits on the left of the colon indicate the hour, the digits on the right of the colon show how many minutes have passed and the number of times the colon blinks shows how many seconds have passed.

Ordinarily, only the hours and minutes are read and recorded.



Let's Learn

Read and record the time in each of the clocks below.



Compare your answers with those in the *Answer Key* on page 28. How well did you do?



Let's Try This

Draw clocks to indicate the following:

1. Time you usually go to bed at night

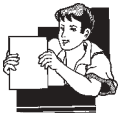
2. Time you wake up in the morning

3. Time you usually start studying your modules

4. Time you go to church on Sundays

5. Time you usually leave the house for work

Show your answers to your Instructional Manager and discuss them.



Let's Learn

After learning how to tell time, you can now solve word problems related to this.

EXAMPLE 1

If it takes you from 8:00 to 9:56 to get to the office from your house, how many minutes does it take you to do so?

First, recall that there are 60 minutes in one hour so:

8:00 to 9:00 = 1 hour or 60 minutes

Then add the remaining number of minutes, that is, 56 minutes and you will have:

$60 \text{ minutes} + 56 \text{ minutes} = 116 \text{ minutes}$

Therefore, it takes you 116 minutes to get to your office every day.

EXAMPLE 2

If you go to school at 7:00 in the morning and go home at 3:00 in the afternoon, how many hours do you spend in school?

$$7:00 \text{ to } 12:00 \text{ noon} = 5 \text{ hours}$$

$$12:00 \text{ noon to } 3:00 \text{ pm} = 3 \text{ hours}$$

$$5 \text{ hours} + 3 \text{ hours} = 8 \text{ hours}$$

Therefore, you spend eight hours in school every day.

EXAMPLE 3

Raul arrived at the bus terminal in Cubao, Quezon City at 4:00 a.m. It took him six hours of travel from the bus terminal in Lucena City, Quezon. What time did he leave his home province?

$$12:00 \text{ a.m. to } 4:00 \text{ a.m.} = 4 \text{ hours}$$

Subtract 2 hours more to complete the 6-hour trip from 12:00 a.m. as in:

$$12:00 \text{ a.m.} - 2 \text{ hours} = 10:00 \text{ p.m.}$$

Therefore, Raul left his home province at 10:00 p.m.

**Let's Try This**

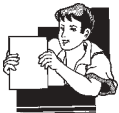
Solve the following word problems.

1. A factory worker starts work at 8:00 a.m. and ends at 4:00 p.m. How many hours does he work every day?

2. How many minutes does Mr. Cruz spend jogging if he jogs from 5:30 to 6:45 a.m.?

3. The marchers from EDSA Shrine walked for four hours and arrived at the Malacañang Palace at 10:30 a.m. What time did they start walking from EDSA Shrine?

Compare your answers with those in the *Answer Key* on page 29. How well did you do?



Let's Learn

SEPTEMBER						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
^{23/} ₃₀	24	25	26	27	28	29

Part of telling time properly is knowing what day of the month it is. This way, you can keep track of what you have to do on a certain day every month. For example, this will tell you when you are supposed to take an exam or when you should go to the NFE office to get a new module once you've finished a certain module.

Look at the following table to know how many days there are in each month.

Month	Number of Days	Month
January	31	July
February	28 (ordinary year) 29 (leap year)	August
March	31	September
April	30	October
May	31	November
June	30	December

How many months have 30 days each? 31 days? Which months have 30 days each? 31 days? How many days are there in an ordinary year? How about in a leap year?

A **leap year** occurs every four years. If it was a leap year last year (2000), when will the next leap year be? The next leap year will be in the year 2004, that is, $2000 + 4 = 2004$.



Let's Review

Answer the following questions.

1. How many months are there with 30 days? 31 days?

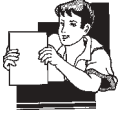
2. Which months have only 30 days?

3. Which months have 31 days each?

4. How many days are there in February in an ordinary year? in a leap year?

5. When does a leap year occur?

Compare your answers with those in the *Answer Key* on page 29. How well did you do?



Let's Learn

After learning how many days there are in every month of the year, it is now time to learn how to solve problems relating to this.

EXAMPLE

In the year 2000, how many days are there from January 16 to March 9?

First, recall that there are 31 days in January so:

January 16 to 31

$31 - 16 = 15 + 1 = 16$ days (1 day is added because January 16 is included in the counting, please check with a calendar)

Then, since the year 2000 is a leap year (because 2000 is divisible by 4), there are 29 days in February so you will have:

$16 \text{ days} + 29 \text{ days} = 45 \text{ days}$

And add the remaining number of days so you'll get:

March 1 to 9 = 9 days

$45 \text{ days} + 9 \text{ days} = 54 \text{ days}$

Therefore, there are 54 days from January 16 to March 9.



Let's Try This

Solve the following word problems.

1. How many days are there from March 9 to May 30, 2001?

2. How many days are there from February 19 to March 21, 2002?

3. How many days are there from July 17 to September 9, 2000?

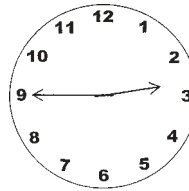
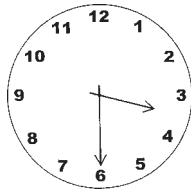
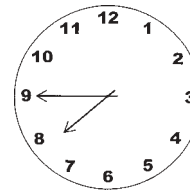
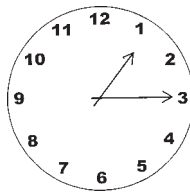
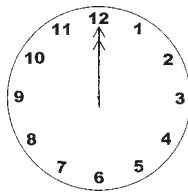
Compare your answers with those in the *Answer Key* on pages 29–30.
How well did you do?

Let's See What You Have Learned

A. Fill in the blanks.

1. There are _____ minutes in one hour.
2. There are _____ hours in one day.
3. There are _____ days in one week.
4. There are _____ days in one ordinary year.
5. There are _____ days in one leap year.

B. Tell the time indicated by each of the following clocks.



C. Solve the following problems:

1. Upon waking up each morning, Monday to Friday, Tessa spends 45 minutes exercising to keep her body in good shape. How many hours does she spend for this in five days?

2. Nestor arrived in his home province at 8:00 a.m. It took him 14 hours to travel from Manila. What time did he leave the city?

3. Female employees in the factory are entitled to 40 days of maternity leave. If Luisa plans to apply for a maternity leave starting May 7, 2001, what date will her leave end?

Compare your answers with those in the *Answer Key* on page 30. How well did you do?



Let's Remember

- ◆ There are 60 seconds in one minute, 60 minutes in an hour, 24 hours in one day, seven days in one week, 12 months in one year, 365 days in one ordinary year and 366 days in a leap year.
- ◆ There are 31 days in January, March, May, July, August, October and December. There are 30 days in April, June, September and November. And there are 28 days in February in an ordinary year and 29 days when it is a leap year.

Converting Time

After learning how to tell time in the first lesson and solving how much time it takes to do things, you are now ready to go one step further. This lesson will now teach you how to convert one unit of time to another. You will learn how to convert a smaller unit of time to a larger unit and vice-versa. You will also learn how to convert time in a 12-hour unit to a 24-hour unit and vice-versa.

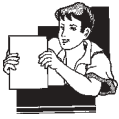


Let's Study and Analyze

Let's look at the table below for the conversion of the 12-hour unit of time to the 24-hour unit or military time.

12-Hour Unit	Military Time	
1:00 a.m.	0100	Oh one h
2:00 a.m.	0200	Oh two h
3:00 a.m.	0300	Oh three
4:00 a.m.	0400	Oh four h
5:00 a.m.	0500	Oh five h
6:00 a.m.	0600	Oh six h
7:00 a.m.	0700	Oh seven
8:00 a.m.	0800	Oh eight
9:00 a.m.	0900	Oh nine
10:00 a.m.	1000	Ten hund
11:00 a.m.	1100	Eleven h
12:00 p.m.	1200	Twelve h
1:00 p.m.	1300	Thirteen
2:00 p.m.	1400	Fourteen
3:00 p.m.	1500	Fifteen h
4:00 p.m.	1600	Sixteen h
5:00 p.m.	1700	Seventee
6:00 p.m.	1800	Eighteen
7:00 p.m.	1900	Nineteen
8:00 p.m.	2000	Twenty h
9:00 p.m.	2100	Twenty-t

Notice that the 12-hour units of time are divided into two groups of 12 hours each: a.m. and p.m., while the 24-hour units of time or military time is numbered from 0100 or 2400 from one midnight to the next. Take note also that a.m. and p.m. are not indicated in military time.



Let's Learn

In converting 12-hour to 24-hour units of time or military time and vice-versa, you should really master or memorize the conversion table in the preceding page.

The 12-hour units of time in the morning is easier to convert than the same units of time in the afternoon. What is 2:00 a.m. in military time? It's 0200. How about 7:00 a.m.? It's 0700.

Do you know how to convert time in the afternoon to military time? Look at the examples below to see how.

EXAMPLE 1

Convert 8:00 p.m. to military time.

STEP 1 Think how many hours there are from 12:00 p.m. to 8:00 p.m.
The answer is 8 hours.

STEP 2 Add: 8 hours — number of hours from 12:00 p.m. to 8:00 p.m.
 $\frac{12 \text{ hours}}{20 \text{ hours}}$ — total number of hours in the morning

STEP 3 Then add two zeros to 20, so it becomes 2000 read as twenty hundred hours.

How about converting military time to 12-hour units of time?

EXAMPLE 2

Convert 2200 to ordinary time.

STEP 1 Subtract 1200 from 2200.

$$2200 - 1200 = 1000$$

STEP 2 Put a colon and indicate either a.m./p.m.

$$1000 \text{ } \tilde{\text{O}} \text{ } 10:00 \text{ p.m.}$$



Let's Try This

A. Convert the following to military time.

1. 7:30 a.m. _____

2. 10:00 p.m. _____

3. 9:45 a.m. _____

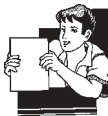
B. Convert the following to ordinary time.

1. 2333 _____

2. 1605 _____

3. 1109 _____

Compare your answers with those in the *Answer Key* on page 31. How well did you do?



Let's Learn

After learning how to convert one unit of time to another, you are now ready to solve word problems relating to this. Let us use the table below to guide us in our computation.

60 seconds	1 minute
60 minutes	1 hour
24 hours	1 day
7 days	1 week
12 months	1 year
365 days	1 year
366 days	1 leap year

EXAMPLE 1

It took Ada 65 minutes to reach the market from her house. How many hours did it take her to get there?

First, recall that there are 60 minutes in one hour.

$$60 \text{ minutes} = 1 \text{ hour}$$

$$65 \text{ minutes} = ? \text{ hours}$$

$$65 \cancel{\text{minutes}} \times \frac{1 \text{ hour}}{60 \cancel{\text{minutes}}} = \frac{65}{60} = 1.08 \text{ hours}$$

Therefore, it took Ada 1.08 hours to get to the market from her house.

EXAMPLE 2

The trip from Quiapo to Valenzuela is two hours. How many minutes would it take a person then to get from Quiapo to Valenzuela?

$$60 \text{ minutes} = 1 \text{ hour}$$

$$2 \text{ hours} = ? \text{ minutes}$$

$$2 \cancel{\text{hours}} \times \frac{60 \cancel{\text{minutes}}}{1 \cancel{\text{hour}}} = 180 \text{ minutes}$$

Therefore, it will take a person 180 minutes to get from Quiapo to Valenzuela.

EXAMPLE 3

Convert 80 days to months if there are approximately 30 days in a month.

$$30 \text{ days} = 1 \text{ month}$$

$$80 \cancel{\text{days}} \times \frac{1 \cancel{\text{month}}}{30 \cancel{\text{days}}} = \frac{80}{30} = 2.67 \text{ months}$$

80 days is approximately equal to 2.67 months.



Let's Try This

Solve the following word problems.

1. It takes Rosa's mother two hours to prepare lunch for the family. How many minutes does it take her to do this?

2. If it takes Kat 140 minutes to clean the house, how many hours does it take her to do so?

3. A municipal mayor serves for three years. If he starts serving in the year 2000, how many days will he serve all in all?

4. Mrs. Reyes has been living in Antipolo for 27 months now. How many years has she been living there?

Compare your answers with those in the *Answer Key* on page 31. How well did you do?



Let's See What You Have Learned

- A. Convert the following to ordinary time.
1. 1330 = _____
 2. 1645 = _____
 3. 1425 = _____

B. Convert the following to military time.

1. 9:00 p.m. = _____

2. 7:45 p.m. = _____

3. 10:30 p.m. = _____

C. Solve the following word problems.

1. An airplane left for Tokyo, Japan at 1650. What time did it leave in ordinary time?

2. The Japanese tourists arrived at the Ninoy Aquino International Airport at 2015. What time did they arrive in ordinary time?

3. Which is earlier 2:30 p.m. or 1300?

Compare your answers with those in the *Answer Key* on page 32. How well did you do?



Let's Remember

- ◆ **Military time** refers to time measured in hours numbered to 24 (as 0100 or 2300) from one midnight to the next.

Relating Time to Distance, Speed and Volume of Work

People say that time is gold. They are right because lost time cannot be recovered. You cannot turn back the hands of time. That is why time is very important and that is why people stick to a schedule so they can do all the things they have to every single day.

This lesson will teach you how to interpret timetables as well as solve problems involving distance, speed and volume of work which all have something to do with time.



Let's Try This

What activities do you have to do every day? List them down below.

Then make a timetable or schedule your activities in a table. Use the space provided below.



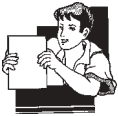
Let's Study and Analyze

Study the timetable below. Then let us analyze its contents.

Bus Trip Schedule

Bus Number	30	25
Days of Operations	MWF	TTT
Lucena City	4:00 p.m.	6:00 a.m.
Naga City	8:00 a.m.	10:00 a.m.
Legaspi City	6:00 p.m.	8:00 p.m.
Samar	4:30 p.m.	6:00 p.m.

From the table, you will see that Bus number 30 leaves every Monday, Wednesday and Friday at 4:00 p.m. for Lucena City, 8:00 a.m. for Naga City, 6:00 p.m. for Legaspi City and 4:30 p.m. for Samar. Bus number 25, on the other hand, leaves every Tuesday, Thursday and Saturday at 6:00 a.m. for Lucena City, 10:00 a.m. for Naga City, 8:00 p.m. for Legaspi City and 6:00 p.m. for Samar. Finally, you can also see that Bus number 60 leaves every Sunday at 7:30 p.m. for Lucena City, at 2:00 p.m. for Naga City, at 6:30 p.m. for Legaspi City and at 7:30 p.m. for Samar.



Let's Learn

After learning all that, you are now ready to solve word problems about distance, speed and volume of work that involve time.

Bear in mind the following when solving word problems.

1. Read the problem carefully.
2. Find what is/are given.
3. Find what is/are being asked for.
4. Determine what formula/s to use.
5. Solve the problem using the formula/s.
6. Write your final answer.

Let us look at the following examples.

EXAMPLE 1

Bus number 30 traveled 240 km in four hours. What is the average speed of the bus?

Given: distance = 240 km

time = 4 hrs.

Unknown: speed = ? km/hr.

$$\begin{aligned}\text{Solution: speed} &= \frac{\text{distance}}{\text{time}} \\ &= \frac{240 \text{ km}}{4 \text{ hrs.}}\end{aligned}$$

$$\text{speed} = 60 \text{ km/hr.}$$

Therefore, the bus traveled at an average speed of 60 km/hr or 60 kph (kph is used on signboards along the roads).

EXAMPLE 2

Some boy scouts went to Barangay Uno and got there in four hours traveling at 2 km/hr. How far was Barangay Uno from their hometown?

Given: time = 4 hrs.

speed = 2 km/hr.

Unknown: distance = ? km

$$\text{Solution: speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{distance} = \text{speed} \times \text{time}$$

$$= 2 \text{ km/hr.} \times 4 \text{ hrs.}$$

$$\text{distance} = 8 \text{ km}$$

Therefore, Barangay Uno is 8 km away from the boy scouts' hometown.

EXAMPLE 3

A girl can make 12 paper cups in 30 minutes. How many paper cups can she make in one hour?

Given: output = 12 paper cups

time = 30 minutes

Unknown: number of paper cups she can make in one hour = ? paper cups

Solution:
$$\frac{60 \text{ minutes}}{\cancel{30 \text{ mins.}}^2} \times \frac{12 \text{ paper cups}}{\cancel{30 \text{ mins.}}} = 24 \text{ paper cups}$$

or (another solution)

Recall that there are two sets of 30 minutes in one hour, so:

$$\begin{array}{r} 12 \text{ paper cups} \\ \times \quad 2 \text{ sets of 30 minutes in an hour} \\ \hline 24 \text{ paper cups} \end{array}$$

Therefore, she can make 24 paper cups in one hour.

Let's See What You Have Learned

A. Study the following timetable and answer the questions that follow.

Bus Trip Schedule

Bus Number	15	20
Days of Operations	MWF	TThS
Baguio City	6:00 a.m.	11:30 p.m.
Dagupan City	6:30 a.m.	12:30 p.m.
Laoag City	5:00 a.m.	10:00 a.m.
Olongapo City	7:00 a.m.	10:30 a.m.

1. What time does Bus number 25 leave for Olongapo City every Sunday?

2. What day/s and time is the earliest trip to Laoag City?

3. What time is the last trip to Baguio City every Saturday?

B. Solve the following word problems.

1. An air-conditioned bus travels at an average speed of 100 km/hr. How long will it take to travel 200 km?

2. If a car traveled for 5 hours at 75 km/hr., how many km did it cover?

3. A dressmaker can make four schoolgirl uniforms in one working day (8 hours). How many uniforms will she be able to make in a week (5 working days)?

Compare your answers with those in the *Answer Key* on pages 32–33. How well did you do?



Let's Remember

- ◆ Knowing how to read a timetable can help you gather important information.
- ◆ Knowledge about time can help you solve word problems related to speed, distance and volume of work.

Well, this is the end of the module! Congratulations for finishing it. Did you like it? Did you learn something useful from it? A summary of its main points is given below to help you remember them better.



Let's Sum Up

This module tells us that:

- ◆ There are 60 seconds in one minute, 60 minutes in an hour, 24 hours in one day, seven days in one week, 12 months in one year, 365 days in one ordinary year and 366 days in a leap year.
- ◆ There are 31 days in January, March, May, July, August, October and December. There are 30 days in April, June, September and November. And there are 28 days in February in an ordinary year and 29 days when it is a leap year.
- ◆ **Military time** refers to time measured in hours numbered to 24 (as 0100 or 2300) from one midnight to the next.
- ◆ Knowing how to read a timetable can help you gather important information.
- ◆ Knowledge about time can help you solve word problems related to speed, distance and volume of work.



What Have You Learned?

Solve the following word problems.

1. It took a farmer 60 days to plow his field. In how many months did he finish plowing his field?

2. Some tourists stayed in Baguio City for 72 hours. How many days were they there?

3. Sonny can jog 50 meters in 15 minutes. What is the total distance he cover in an hour?

Compare your answers with those in the *Answer Key* on page 33. How well did you do?



Answer Key

A. Let's See What You Already Know (pages 2–4)

- A. 1. 8:00
2. 5:15
3. 9:30
4. 10:45
5. 7:15
- B. 1. $1500 - 1200 = 3:00$ p.m.
2. 1000 or 10:00 a.m.
3. $2300 - 1200 = 11:00$ p.m.
- C. 1. Given: time of departure = 6:30 a.m.
time of arrival = 11:30 a.m.

Unknown: time interval

Solution: time interval = time of arrival – time of departure
 $= 11:30 - 6:30$

time interval = 5 hours

Therefore, the trip was 5 hours long.

2. 120 minutes = ? hours
60 minutes = 1 hour
 $120 \text{ minutes} \times \frac{1 \text{ hour}}{60 \text{ minutes}} = 2 \text{ hours}$

Therefore, 120 minutes is equal to 2 hours.

3. Given: distance = 120 km
time = 2 hrs.

Unknown: speed

$$\begin{aligned} \text{Solution: speed} &= \frac{\text{distance}}{\text{time}} \\ &= \frac{120 \text{ km}}{2 \text{ hrs.}} \end{aligned}$$

$$\text{speed} = 60 \text{ km/hr. or } 60 \text{ kph}$$

The average speed of the car was 60 km/hr. or 60 kph.

4. Given: time of departure = 8:00 p.m.
time interval = 7 hrs.

Unknown: time of arrival = ?

$$\begin{aligned} \text{Solution: time of arrival} &= \text{time of departure} + \text{time interval} \\ &= 8:00 \text{ p.m.} + 7 \text{ hrs.} \\ &= 8:00 + (4 \text{ hours left in the} \\ &\quad \text{evening} + 3 \text{ hours}) \\ &= 12:00 + 3 \text{ hours} \\ &= 3:00 \text{ a.m. the following day} \end{aligned}$$

The bus will arrive in Naga City at 3:00 a.m. the following day.

5. Given: time of arrival = 6:00 a.m.
time interval = 8 hrs.

Unknown: time of departure = ?

Solution:

$$12:00 \text{ a.m. to } 6:00 \text{ a.m.} = 6 \text{ hours}$$

$$12:00 - 2 \text{ hours} = 10:00 \text{ p.m. the same day}$$

The bus left at 10:00 p.m. the same day.

B. Lesson 1

Let's Learn (page 6)

1. 6:15
2. 3:45
3. 10:00
4. 11:30
5. 10:50

Let's Try This (pages 8–9)

1. 8:00 a.m. to 12:00 p.m. = 4 hours
12:00 p.m. to 4:00 p.m. = 4 hours
4 hours + 4 hours = 8 hours

He works eight hours every day.

2. 5:30 to 6:00 = 30 minutes
6:00 to 6:45 = 45 minutes
30 minutes + 45 minutes = 75 minutes or 1 hour and 15 minutes
Mr. Cruz spends 1 hour and 15 minutes jogging every morning.

3. 10:30 a.m. – 4 hours = 6:30 a.m.
The marchers left EDSA Shrine at 6:30 a.m.

Let's Review (page 10)

1. four months; eight months
2. April, June, September and November
3. January, March, May, July, August, October and December
4. 28 days; 29 days
5. every four years

Let's Try This (pages 11–12)

1. March 9 to 31 = $31 - 9 + 1 = 23$ days
April 1 to 30 = 30 days
May 1 to 30 = 30 days
23 days + 30 days + 30 days = 83 days

There are 83 days from March 9 to May 30, 2001.

2. February 19 to 29 = $29 - 19 + 1 = 11$ days
March 1 to 21 = 21 days
11 days + 21 days = 32 days

There are 32 days from February 19 to March 21, 2002.

3. July 17 to 31 = $31 - 17 = 14 + 1 = 15$ day
 August 1 to 31 = 31 days
 September 1 to 9 = 9 days
 15 days + 31 days + 9 days = 55 days
 There are 55 days from July 17 to September 9, 2000.

Let's See What You Have Learned (pages 12–13)

- A. 1. 60
 2. 24
 3. seven
 4. 365
 5. 366

- B. 1. 12:00
 2. 1:15
 3. 8:45
 4. 3:30
 5. 2:45

- C. 1. $45 \text{ min.} \times 5 \text{ days} = 225 \text{ mins.}$

$$225 \overset{22.5}{\cancel{\text{mins.}}} \times \frac{1 \text{ hr.}}{\underset{6}{60 \cancel{\text{mins.}}}} = \frac{22.5}{6} \text{ or } 3.75 \text{ hrs.}$$
 or 3 hrs. and 45 mins.

2. 12:00 a.m. to 8:00 a.m. = 8 hrs.
 Subtract 6 hrs. from 12:00 a.m. to complete
 the 14 - hr. travel time
 12:00 a.m. – 6 hrs. = 6 p.m. the previous day

3. May 7 to May 31 = $31 - 7 = 24 + 1 = 25$ days
 $40 - 25 \text{ days} = 15 \text{ days more to complete the}$
 day maternity leave

June 1 to 15 = 15 days

Therefore, the maternity leave will end on June 15, 2001.

C. Lesson 2

Let's Try This (page 16)

A. 1. 0730

2. 2200

◆ 12:00 p.m. to 10:00 p.m. = 10 hrs.

$$\begin{array}{r} + 12 \text{ hrs.} \\ \hline 22 \text{ hrs. or } 2200 \end{array}$$

3. 0945

B. 1. $2333 - 1200 = 1133 \rightarrow 11:33 \text{ p.m.}$

2. $1605 - 1200 = 0405 \rightarrow 4:05 \text{ p.m.}$

3. 11:09 a.m.

Let's Try This (pages 17–18)

1. 2 hours = ? minutes

$$60 \text{ minutes} = 1 \text{ hour}$$

$$2 \text{ hours} \times \frac{60 \text{ minutes}}{1 \text{ hour}} = 120 \text{ minutes}$$

2. 140 minutes = ? hours

$$60 \text{ minutes} = 1 \text{ hour}$$

$$2 \text{ hours} \times \frac{60 \text{ minutes}}{1 \text{ hour}} = 120 \text{ minutes}$$

3. 3 years from year 2000 = ? days

$$2000 = 366 \text{ days}$$

$$2001 = 365 \text{ days}$$

$$2002 = 365 \text{ days}$$

$$366 \text{ days} + 365 \text{ days} + 365 \text{ days} = 1096 \text{ days}$$

4. 27 months = ? years

$$12 \text{ months} = 1 \text{ year}$$

$$27 \text{ months} \times \frac{1 \text{ year}}{12 \text{ months}} = \frac{27}{12} = 2.25 \text{ years}$$

Let's See What You Have Learned (pages 18–19)

- A. 1. $1320 - 1200 = 0130 \rightarrow 1:30$ p.m.
2. $1645 - 1200 = 0445 \rightarrow 4:45$ p.m.
3. $1425 - 1200 = 0225 \rightarrow 2:25$ p.m.
- B. 1. 2100
9 hours + 12 hours = 21 hours or 2100
2. 1945
7.45 hours + 12 hours = 19.45 hours or 1945
3. 2230
10.30 hours + 12 hours = 22.30 hours or 2230
- C. 1. $1650 - 1200 = 4:50$ p.m.
2. $2015 - 1200 = 8:15$ p.m.
3. $1300 - 1200 = 1:00$ p.m.
1300 is earlier than 2:30 p.m.

D. Lesson 3

Let's See What You Have Learned (pages 23–24)

- A. 1. 6:00 p.m.
2. Mondays, Wednesdays and Fridays at 5:00 a.m.
3. 11:30 p.m.
- B. 1. Given: speed = 100 km/hr.
distance = 200 km
Unknown: time = ?

Solution: $\text{speed} = \frac{\text{distance}}{\text{time}}$
 $\text{time} = \frac{\text{distance}}{\text{speed}}$
 $= \frac{200 \text{ km}}{100 \text{ km/hr.}}$
time = 2 hrs.

It will take the bus two hours to travel 200 km.

2. Given: time = 5 hrs.

speed = 75 km/hr.

Unknown: distance covered

Solution:
$$\text{speed} = \frac{\text{distance}}{\text{time}}$$
$$\text{distance} = \text{speed} \times \text{time}$$
$$= 75 \frac{\text{km}}{\text{hr.}} \times 5 \text{ hrs.}$$
$$= 375 \text{ km}$$

It covered 375 km.

3. Given: 4 uniforms = 8 hrs.

Unknown: number of uniforms in 5 working days

Solution:
$$\begin{array}{r} 4 \text{ uniforms} \\ \times 5 \text{ working days} \\ \hline 20 \text{ uniforms} \end{array}$$

She can make 20 uniforms in five working days.

E. What Have You Learned? (page 26)

1. 30 days = 1 month

$$60 \text{ days} \times \frac{1 \text{ month}}{30 \text{ days}} = 2 \text{ months}$$

It took him two months to plow his field.

2. 24 hours = 1 day

$$72 \text{ hours} \times \frac{1 \text{ day}}{24 \text{ hours}} = 3 \text{ days}$$

They stayed there for three days.

3. There are 4 sets of 15 minutes in an hour.

$$\begin{array}{r} 50 \text{ meters} \\ \times 4 \text{ sets of 15 minutes} \\ \hline 200 \text{ meters} \end{array}$$

Lito can jog a total distance of 200 meters in an hour.



References

Blough, Glenn O. and Julius Schwartz. *Elementary School Science and How to Teach It*. 3rd ed. New York: Holt and Rinehart and Winston, 1951.

Hughes, James (ed.). *Larousse Desk Reference Encyclopedia*. Great Britain: Larousse, 1995.

Strahler, Arthur N. *Physical Geography*. 2nd ed. New York: John Wiley and Sons, Inc., 1951.

The World Book Encyclopedia. Vol. 19. Chicago: World Book, Inc., 1986.