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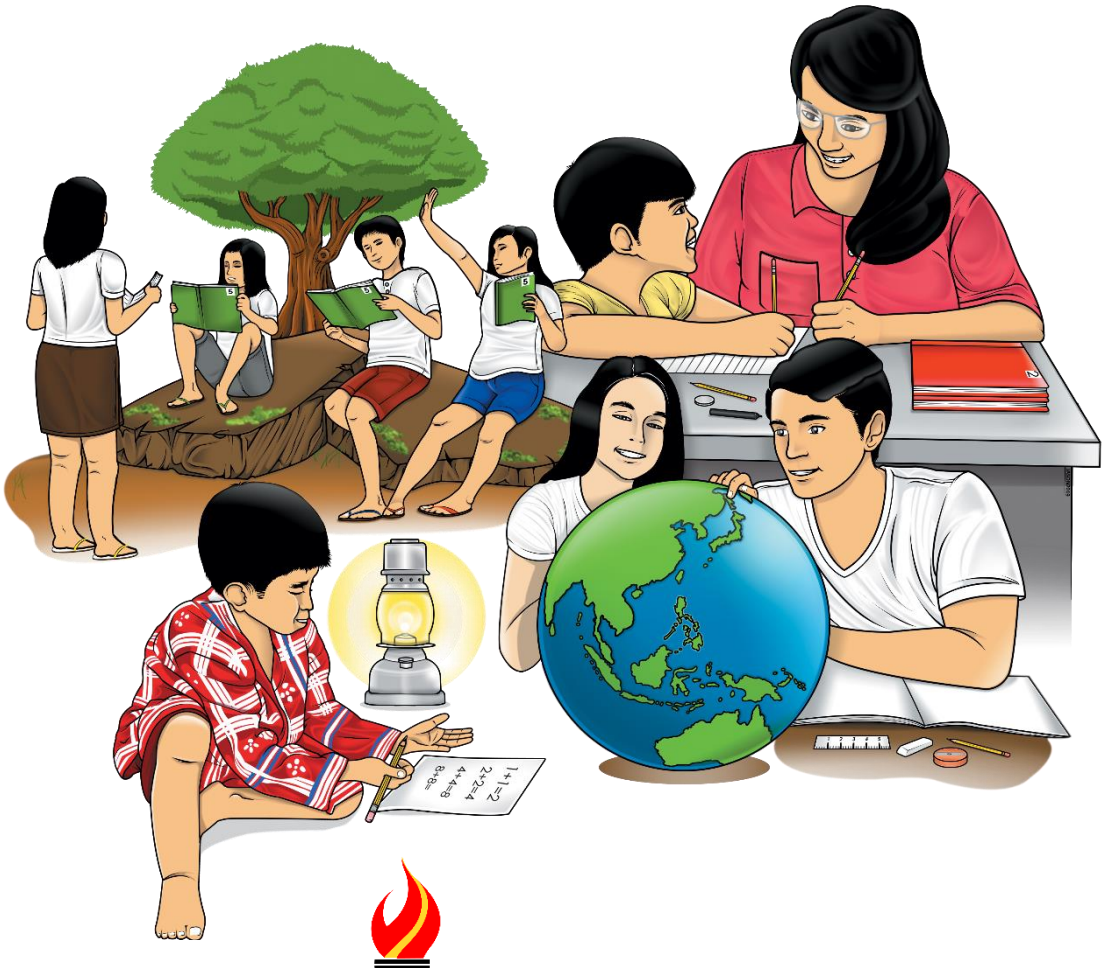
Mathematics

Quarter 3 – Module 17:
Solving Problems Involving Time



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Mathematics

Quarter 3 – Module 17:
Solving Problems Involving Time

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

Good day, Mathletes! We face problems involving time every day. We have to decide what time to wake up to be ready for our 8 AM class. To make the right decision, we need to consider how much time is needed for us to shower, dress up, have breakfast, and be ready for the class. This module was especially written to help you solve such problems.

To get the most from this module, be sure to do all the activities and exercises, and keep a positive outlook. Before you know it, you have already solved these problems in a systematic and logical way.

When you are done with this module, you are expected to:

- figure out what time it was, what time it will be, or how much time went by in the different events or occasions described;
- state the steps in solving word problems on measurement of time; and
- solve problems involving time.

What I Know

Directions: Read and understand each problem below. Choose the letter of the correct answer. Write your answers on a separate sheet of paper.

The four classes started their lessons at 6:45 a.m. If they stayed in class for 5 hours, what time did they finish?

Skill Sharpener in Elementary Mathematics IV p. 72

1. What is asked?
   A. The time they started
   B. The time they stayed in class
   C. The lessons they had with the time
   D. The time they finished their lessons

2. What operation shall we use to solve the problem?
   A. Addition
   B. Subtraction
   C. Division
   D. Multiplication

3. If n is the unknown, what is the correct number sentence?
   A. 6:45 + 5:00 = n
   B. 6:45 x 5:00 = n
   C. 6:45 – 5:00 = n
   D. 6:45 + 5 + 4 = n

4. Which of the following is the answer to the problem?
   A. 1:45 am
   B. 11:45 am
   C. 11:50 am
   D. 11:45 pm

Father began working on the field at 5:00 a.m. He worked for 4 hours without stopping. What time did he finish?

Skill Sharpener in Elementary Mathematics IV p. 72

5. What is asked?
   A. The time father finished the work
   B. The time father went to the field
   C. The time father started the work
   D. The time he went home

6. What is the correct number sentence?
   A. 5:00 – 4:00 = n
   B. 5:00 x 4:00 = n
   C. 5:00 + 4:00 = n
   D. 5:00 + 4 + 1 = n

7. Which of the following is the answer to the problem?
   A. 1:00 am
   B. 9:00 am
   C. 10:0 am
   D. 9:00 pm

Martha took the dog for a walk at 5:00 a.m. She came back at 7:00 a.m. How long was she out?

Regional Test Item Bank, Mathematics 5, Test I.1, p.116

8. How many minutes was she out with her dog?
   A. Martha was out for 12 minutes.
   B. Martha was out for 100 minutes.
   C. Martha was out for 120 minutes.
   D. Martha was out for 60 minutes.

9. Jenny started baking at 6:15 pm. She finished baking at 7: 20 pm of the same day. How long did it take Jenny to bake?
   A. 55 minutes
   B. 1 hour and 5 minutes
   C. 1 hour and 12 minutes
   D. 1 hour and 35 minutes

10. The time in Manila is 2 hours behind Sydney. The flight from Manila to Sydney takes 7 hours. If an airplane leaves Manila at 8:00 pm, Monday, at what time and day in Sydney will the plane arrive?
   A. 2:00 am, Tuesday
   B. 3:00 am, Tuesday
   C. 4:00 am, Tuesday
   D. 5:00 am, Tuesday

Lesson 1 Solving Problems Involving Time

What's In

In the previous modules, you have learned how to convert units of time and to measure time using a 12-hour and a 24-hour clock.

Let us first recall that time can be expressed in different units.

Study the table below.

Units of Measurement (Time)	***Equivalent***
1 millennium	10 centuries
1 century	10 decades
1 decade	10 years
1 year	12 months
1 month	4 weeks
1 week	7 days
1 day	24 hours
1 hour	60 minutes
1 minute	60 seconds

In the **12-hour clock**, a.m. and p.m. are placed at the end to denote whether the time is in the morning or afternoon. These are abbreviations when the 12-hour clock is used.

The *ante meridiem* (a.m.) is after 12 midnight and before 12 noon. It is 12:01 a.m. to 11:59 a.m.

The *post meridiem* (p.m.) is after 12 noon and before midnight. It is *12:01* p.m. to 11:59 p.m.

The **24-hour clock,** also referred to as the **Military Clock,** uses the numbers **00:00 to 23:59.** Midnight is **24:00 or 00:00**. It does not require a.m. and p.m. Instead, **H** or **Hours** is placed at the end of the time to indicate the use of the 24-hour clock format. There are some who use it without H or Hours.

The 24-hour clock is a time-keeping convention where the day runs from midnight to midnight and is split into **24 hours,** from **hour 0 to hour 24**.

Converting time in a.m. or p.m. to 24-hour clock

1. The time from 1:00 a.m. to noon is almost the **same** in Military clock. Then, remove the a.m. and p.m.

   Examples: 1:30 a.m. = 1:30 10:30 a.m. = 11:00
   2:05 a.m. = 2:05 11:59 a.m. = 11:59

2. **Add 12** to any hour after noon and before midnight. That is, from 1:00 p.m. to 11:59 p.m., **add 12** hours. Then, remove the a.m. and p.m.

   Examples: 4:45 p.m. = 16:45 11:30 p.m. = 23:30

3. For the first hour of the day, 12 midnight to 12:59 a.m., **subtract 12 hours.** Then, remove the a.m. and p.m.

   Examples: 12:35 a.m. = 0:35 12 Midnight = 0:00

   Now, try to check your previous knowledge by answering the following.

Directions:

A. Determine the time between the two indicated times. Choose the letter of the correct answer. Write your answers on your answer sheet. Note that the times are given on a same day.

1. 7:00 a.m. and 10:00 a.m. A. 2 hours B. 4 hours
   C. 3 hours D. 5 hours

2. 11:00 p.m. and 1:00 a.m. A. 1 hour B. 2 hours
   C. 3 hours D. 4 hours

B. Supply the missing numeral. Write your answers on your answer sheet.

3. 65 seconds = _____ minutes _____ seconds
4. 125 seconds = _____ minutes _____ seconds
5. 1 hours = _____ minutes

C. Complete the data. Write your answer on your answer sheet.

6. There are _____ hours in a day.
7. There are _____ seconds in 1 minute.
8. There are _____ hours in 120 minutes.

D. Fill in the table by converting from 12-hour clock to 24-hour clock and vice versa. Write your answer on your answer sheet.

	12-hour	**24-hour**
9.	5:00 p.m.	
10.		16:00 H

Keep going! You are doing well.

What's New

This time, you will go through different problems involving time. A better understanding on how these problems is solved is an important skill to master in order to easily find solutions to such situations. We all know that there are a lot of real-life experiences that involve time problems. Hence, you need to increase your understanding on how this goes.

Now, I want you to help me find solution to this situation.

> Jhune wants to help the Calbayog City front liners by providing them with snacks. He prepares a snack combo of special spaghetti and kakanin for 60 persons. How many minutes will it take to prepare 60 snacks combos if it takes 50 seconds to pack each one?

This situation needs conversion from one unit of time to another.

What is It

In solving problem involving time, you need to have focus on what the problem is all about. **Problem solving** is a process or act of defining or finding solution to a problem. Identifying the facts and deciding on the ways or strategies to use is a basic skill one must possess to come up with the solution. Likewise, mastery on conversion from one unit of time to another unit of time as previously discussed is very much important as you go through a series of exercises in this module.

We follow this four-step plan.

1. **Understand** by identifying what is being asked in the problem and the relevant facts stated.
2. **Plan** by choosing a strategy to solve the problem, either by using variable, equation and a model. Identifying the operation to be used as signaled by clue or key words stated in the problem.
3. **Solve** by performing the identified strategy or tool to solve the problem; and
4. **Check** the process by verifying the reasonableness of the answer. State the answer in sentence form.

Consider the situation involving Jhune and the time to be spent for repacking. We follow the four-step plan.

Understand - What is asked in the problem? - What are the given facts?	It asked for the time, in minutes, that is needed to finish packing the snack combos. It takes 50 seconds to pack each snack combo. She needed to pack 60 snack combos.
Plan - Choose a strategy - Select the operation (use **clue/key** words in the problem).	Use conversion from one unit of time to another. To change a smaller unit of time to a bigger unit, divide.
Solve **-** Perform the strategies	To answer the question, find the total number of seconds needed to pack the snack combos. Then, convert it to minutes. We now have the following. **50 seconds x 60 = 3000 seconds** Converting seconds to minutes, we have: $3000 \text{ seconds} = 3000 \text{ seconds} \times \frac{1 \text{ minute}}{60 \text{ seconds}}$ $= \frac{3000 \text{ minutes}}{60}$ $= 50 \text{ minutes}$
Check - Verify the reasonableness of the answer.	It takes 50 seconds to pack a snack combo. As it takes less than a minute to prepare a snack combo, it follows that 60 packs will require less than 60 minutes. The answer makes sense. Moreover, proportion can be done to solve the problem. 1 pack: 50 seconds 1 minute: 60 seconds $\times 60$ $\times 60$ $\times 50$ $\times 50$ **60 packs**: 300 seconds **50 minutes**: 300 seconds

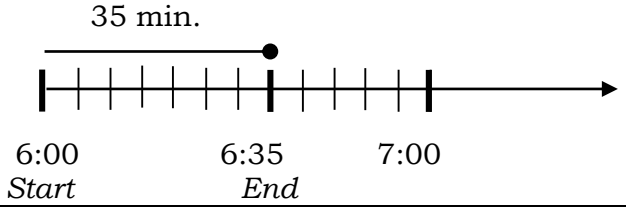
Answer: *It will take 50 minutes to finish packing the snack combos.*

Here are other examples of real-life problems involving time. Some involve solving elapsed time. **Elapsed time** is the length of time when an event happened. It means the length of time from the start to the end.

Notice how these problems are being solved using the four-step plan.

Rod jogs every morning around the Barangay Park. This morning, he started jogging at 6:00 a.m. and ended at 6:35 a.m. How many minutes did he jog this morning?

Follow the *four-step plan* to solve the problem.

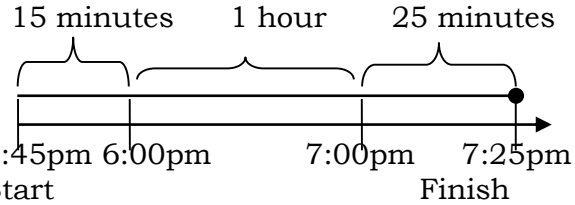
Understand - What is asked in the problem? - What are the given facts?	The problem is asking for the time that elapsed from 6:00 a.m. to 6:35 a.m. on the same day. Rod started jogging from 6:00 a.m. to 6:35 a.m.
Plan - Choose a strategy - Select the operation (use **clue/key** words in the problem)	Use an equation or a timeline. Subtraction (how long)
Solve **-** Perform the strategies.	**Using an equation** Let n be the time spent jogging To find n, we need to subtract the time he finished jogging from the time he started. 6:35 – 6:00 = n 6:35 – 6:00 = **35 minutes** Alternatively, we have the following. 6:35 *(You can subtract vertically.)* - 6:00 35 = n **Using a timeline** 
Check - Verify the reasonableness of the answer…	From 6:00 a.m. to 6:35 a.m., there is only change in the minutes section. The elapsed time of 35 minutes is therefore logical.

Hence, Rod spent **35 minutes** *jogging around the Barangay Park.*

Study this next situation.

Jomari started baking banana cakes at 5:45 p.m. He finished baking at 7:25 p.m. How long did it take Jomari to bake the cakes?

Let us follow the *four-step plan* to solve the problem.

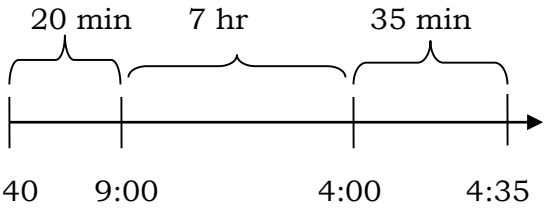
Understand - What is asked in the problem? - What are the given facts?	The problem is asking for the time that elapsed from 5:45 p.m. to 7:25 p.m. on the same day.
Plan - Choose a strategy - Select the operation (use **clue/key** words in the problem)	Use an equation. Subtraction (how long) can be used to solve the problem.
Solve **-** Perform the strategies	**Using an equation** Let *n* be the time spent in baking the cakes To find *n*, we need to subtract the time he started baking from the time he finished baking it. Hence, we have the following. 7:25 - 5:45 = *n* Alternatively, we can do the operation vertically. 7 25 (*align the hours and minutes)* - 5 45 2 -20 *Since, we cannot take away 45 minutes from 25 minutes, we will do regrouping.* *7:00 – 1:00 = 6:00 and 60 minutes,* *then add it to 25 minutes = 85 minutes* Therefore, we now have the following. 6 85 (this is equivalent to 7:25) - 5 45 1 40 *n = 1:40*
Check - Verify the reasonableness of the answer.	The time line below verifies the answer.  15 minutes + 1 hour + 25 minutes = 1 hour and 40 minutes Thus, the solution is correct.

Answer*: Jomari baked banana cakes for 1 hr and 40 minutes.*

If it is still difficult for you to understand, here's one more example.

A bus left the terminal at 8:40 a.m. It arrived at its destination at 4:35 p.m. on that same day. How long was the trip?

Follow the ***four-step plan*** to solve this problem.

Understand - What is asked in the problem? - What are the given facts?	The problem is asking for the length of time travelled. The start time is 8:40 a.m. and the end time is 4:35 p.m. on the same day.
Plan - Choose a strategy	Use a number line.
Solve **-** Perform the strategies	**Using a number line** We have the following  To find the length of time the bus had travelled to reach its destination, add all the time spent when it started travelling until it reached the destination. 7 hr + 20 min + 35 min **7 hr and 55 min**
Check - Verify the reasonableness of the answer.	If you add 8 hours to 8:40 am, you will get 4:40 p.m, which is just 5 minutes more than the arrival time of the bus. If you subtract 5 minutes from 4:40 p.m., you will get 4:35 p.m. Thus, the answer 7 hours and 55 minutes is reasonable.

Answer: *The bus travelled for* **7 hrs and 55 minutes.**

Now try to study the next example concerning the relationship of time in a different country to the time in the Philippines. Let's check this out.

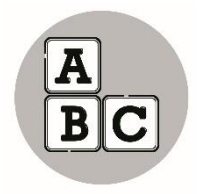
The time in Manila is 6 hours ahead of Rome. The flight from Manila to Rome takes 9 hours. If an airplane leaves Manila by 9:00 a.m., at what time in Rome will the plane arrive?

Using the four-step plan, we have the following.

Understand - What is asked in the problem? - What are the given facts?	The problem is asking for the time in Rome that the plane will arrive in Rome. The time in Manila is 6 hours ahead of Rome. The flight from Manila to Rome takes 9 hours. The airplane left Manila at 9:00 a.m.
Plan - Choose a strategy - Select the operation (use **clue/key** words in the problem)	Add 9 hours to 9:00 a.m., and then subtract 6 hours since Manila time is 6 hours ahead of Rome time.
Solve **-** Perform the strategies	**Solution** Add 9 hours to 9:00 a.m. **9 + 9 = 18 – 12 = 6** Since there cannot be 18 hours in a 12-hour clock, so we subtract 12 from 18. Since we subtracted 12, it means that a.m. has passed already. It is already p.m. of the same day. The plane will arrive at *6:00 p.m.*, Philippine Standard Time (PST), and since PST is 6 hours ahead of Rome. So, 6:00 p.m. – 6 hours = **12:00 p.m.** in Rome.
Check - Verify the reasonableness of the answer.	From 6:00 p.m., you go back 9 hours. Is the answer 9:00 a.m.? If so, your answer is logical.

Answer: *Therefore, the plane will arrive at 12:00 noon in Rome.*

I guess you are now ready for the next exercises. If ever something is not clear, just get back to the details and review the examples. You are doing well! Keep moving!



What's More

Now that you have read and have gone through the examples in solving problems involving time, try and check your understanding about the lesson. Enjoy doing the following activities!

Activity 1: Give Me Time, Please?

Directions: Copy and complete the table by filling the elapsed time. Write your answers on a separate sheet of paper.

Start Time	End Time	Elapsed Time
1. 06:10	06:40	
2. 05:04	05:54	
3. 1:05 p.m.	1:50 p.m.	
4. 4:45 a.m.	5:45 a.m.	
5. 7:35 a.m.	9:35 a.m.	

Activity 2: Time Check

Directions: Analyze the word problem below. Match the questions in Column A with the answers in Column B. Write the letter of your choice on a separate sheet of paper.

Flor spends 1 hour and 20 minutes cleaning the house every day. Today, she started at 7:30 a.m. At what time will she be done cleaning?

Column A	Column B
1. What is asked?	A. Addition
2. What are given?	B. Flor will finish cleaning at 8:50 a.m.
3. What is the operation to be used?	C. The time Flor will be finished cleaning the house
4. What is the equation/number sentence?	D. 7:30 + 1:20 = 8:50
5. Perform your solution to the problem.	E. The start time is 7:30 a.m. and it takes 1 hr and 20 min to do the job
6. What is the answer to the problem?	F. 7:30 + 1:20 = ***n***
	G. G. Subtraction

Activity 3: Time Is Gold

Directions: Read and understand the following situations. Fill in the four-step plan to solve the problem. Problem 1 has been done for you as a guide. Write your answers on a separate sheet of paper.

<table>
<tr><td colspan="2">Problem 1

The ferry from Matnog, Sorsogon left at 3:30 p.m. on Monday. It arrived in San Isidro Ferry Terminal, Northern Samar at exactly 5:49 p.m. on the same day. How long was the trip?</td></tr>
<tr><td>Understand
- What is asked in the problem?

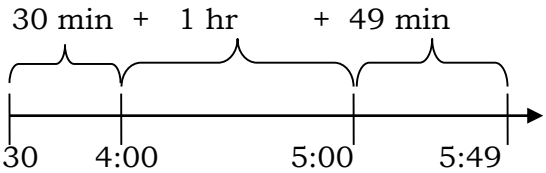
- What are the given facts?</td><td>1. The problem is asking for the length of time the ferry took to travel. That is the elapsed time from 3:30 p.m. to 5:49 p.m.

2. The start time is 3:30 p.m. and the end time is 5:49 pm.</td></tr>
<tr><td>Plan
- Choose a strategy/strategies and the operation to be used</td><td>3.Use an equation; subtraction (how long)</td></tr>
<tr><td>Solve
- Perform the strategies</td><td>4. Let n be the time spent for the trip.

To find n, subtract the time the ferry left Matnog, Sorsogon from the time it arrived in San Isidro Ferry Terminal.

Hence, we have the following.
5:49 – 3:30 = n
We have:
5 : 49 (the time it arrived in San Isidro Ferry Terminal)
- 3 : 30 (the time it left in Matnog, Sorsogon)
2 : 19 = n

Answer: The trip lasted for 2 hours and 19 minutes.</td></tr>
<tr><td>Check
- Verify the reasonableness of the answer.</td><td>5.Use a number line

Hence: 1 hr + 30 min + 49 min = 1 hr and 79 min
(1 hr = 60 min), so 79 min = 1 hr and 19 min
1 hr + 1 hr + 19 min = 2 hrs and 19 min

The answer is reasonable.</td></tr>
</table>

Problem 2 Allen began his breakfast at 6:00 a.m. and finished at 6:50 a.m. How long did it take him to eat? Mathematics LM, Grade 4, p.117	
Understand - What is asked in the problem? - What are the given facts?	1. _____ 2. _____
Plan - Choose a strategy/strategies and the operation to be used	3. _____
Solve **-** Perform the strategies	4. _____
Check - Verify the reasonableness of the answer.	5. _____

Answer: _____

Problem 3 Luigi was invited by his cousin to visit Canada. The trip from Philippines to Canada is 14 hours and 30 minutes. If his plane left the Philippines at 6:00 a.m., what time in the Philippines will he be able to arrive in Canada? Mathematics LM, Grade 4, p.117	
Understand - What is asked in the problem? - What are the given facts?	1. _____ 2. _____
Plan - Choose a strategy/strategies and the operation to be used	3. _____
Solve **-** Perform the strategies	4. _____
Check - Verify the reasonableness of the answer.	5. _____

Answer: _____

Excellent! You have reached this far. You are doing well. Keep going.

What I Have Learned

Based from the lesson you have just studied, answer the following questions.

Directions: Read and understand the problem carefully. Do as indicated. Write your answers on separate sheet of paper.

1. What are the steps in solving problems involving measurement of time? Use the problem below to explain your answers.

Johan was invited by his cousins to visit Australia. The trip from the Philippines to Australia is about 7 hours. If his plane left the Philippines at 10:00 a.m., what time in the Philippines will he be able to arrive in Australia?

Step 1: _____
Step 2: _____
Step 3: _____
Step 4: _____

2. Write down your own strategies/ways in solving problems involving measurement of time.

_____
_____
_____

What I Can Do

Congratulations! You are almost done with the challenges in this module. After you have learned the four-step plan in solving problems involving time, it's now time for you to apply these skills in your real-life. Truly, time is one of the most important blessings in life. Using it wisely and productively can bring us to where we want to be, but wasting it can make our life miserable. Every second counts. There's no turning back. Make use of the time for your advantage.
Here's a situation that you need to solve.

Activity: Right Timing

Directions: Read and understand the following problem carefully. Then, do what is asked. Show your solution on a separate sheet of paper.

You plan to visit your cousin Mario who lives in the city. You leave your home at 7:30 a.m., Saturday. It takes 27 hours and 25 minutes to reach the city. At what time and day will you see your cousin?

Understand:	1. What is asked? _____
	2. What are the given facts? _____
Plan:	3. What strategy/operation will you use to solve the problem? _____
Solve:	4. What is the answer? _____
Check:	5. Is your answer correct? _____

Finally, you are almost done with this module. Take a short break, then do the last two challenges.

Assessment

Directions: Read and understand each problem below. Choose the letter of the correct answer. Write your answers on a separate sheet of paper.

Mrs. Villas' cake was in the oven from 3:00 p.m. to 4:45 p.m. How long was the cake in the oven?

Regional Test Item Bank, Mathematics 5, Test II.1, p.116

1. What is asked?
   A. The length of time the cake was sold
   B. The length of time the cake was decorated
   C. The length of time the cake was in the oven
   D. The length of time the cake was put in the oven

2. What is the correct number sentence for the problem?
   A. 4:45 + 3:00 = n
   B. 4:45 – 3:00 = n
   C. 3:00 – 4:45 = n
   D. 3:00 × 4:45 = n

3. What is the correct answer to the problem?
   A. 1 hr and 45 minutes
   B. 7 hrs and 45 minutes
   C. 6 hrs and 45 minutes
   D. 2 hrs and 45 minutes

A delivery man started delivering the goods at 3:30 p.m. He took $1\frac{1}{2}$ hours to finish his round. What time did he finish?

Regional Test Item Bank, Mathematics 5, Test II.2, p.116

4. What is asked?
   A. The time the delivery man arrived
   B. The time the delivery man took the goods
   C. The time the delivery man started delivering
   D. The time the delivery man finished his round

5. In solving this problem, which step comes first?
   A. Choose a strategy/operation to be used.
   B. Identify what is asked in the problem.
   C. Verify your answer if it is correct.
   D. Perform your strategy.

6. What is the correct answer to the problem?
   A. 2:00 p.m.
   B. 5:00 p.m.
   C. 4:00 p.m.
   D. 6:00 p.m.

7. What is asked?
   A. The length of time it takes to travel to Tacloban
   B. The length of time spent in the terminal
   C. The time it arrives in Tacloban
   D. The time the bus leaves the terminal

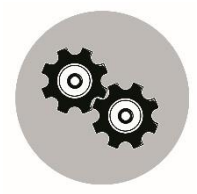
8. What is the correct number sentence?
   A. 4:00 – 6:20 = n
   B. 6:20 – 4:00 = n
   C. 4:00 + 6:20 = n
   D. 6:20 + 4:00 = n

9. What is the correct answer to the problem?
   A. 2 hrs and 20 minutes
   B. 2 hrs and 10 minutes
   C. 3 hrs and 20 minutes
   D. 3 hrs and 40 minutes

Jonas started working on his math project at 9:00 a.m. He finished by 10:20 a.m on the same day. How many minutes did he work on his project?

10. What is the correct answer to the problem?
    A. 20 minutes
    B. 60 minutes
    C. 80 minutes
    D. 120 minutes

Excellent! You are doing well. One last activity and you are done with this module.



Additional Activities

Directions: Read and understand the following carefully. Solve the problem. Copy the problems and solve them on a separate sheet of paper.

1. Trixie started her homework at 5:30 p.m. She finished it at 8:00 p.m. How long (in minutes) did it take her to do her homework?

2. A plane landed in Calbayog at 2:30 p.m. It departed from Cebu at 11:30 a.m on the same day. How long did the plane fly from Cebu to Calbayog?

3. Ashley paints for 1 hour and 22 minutes. She started painting at 2:17 p.m. What time did she finish painting?

Well done! You are done with this module. Hooray!

Answer Key

What I Have Learned

1. Step 1 Understand the problem. The problem is asking for the time of arrival in Australia if Johan leaves the Philippines at 10 in the morning and it takes 7 hours of travel.

   Step 2 Planning for the solution. The strategy to use can be using an equation or using the number line.

   Step 3 Solving the problem. 10:00 + 7:00 = 17:00 or 5:00 p.m.

   Step 4 Checking if the answer is reasonable. It is reasonable because 7 hours after 10 in the morning must be afternoon.

2. Answers vary.

What I Can Do

1. The time and day that you and Mario can meet
2. The start time is 7:30 a.m., a Saturday and the travel time is 27 hours and 25 minutes
3. Use of an equation or a number line
4. 10:55 a.m., Sunday
5. The answer is reasonable because it takes 27 hours and 25 minutes for the travel. That is more than a day. Hence, the answer must be the following day and 3 hours and 25 minutes after 7:30 a.m.

Additional Activities

1. 150 minutes
2. 3 hours

Assessment

1. C
2. B
3. A
4. D
5. B
6. B
7. A
8. B
9. B
10. C

What's More

Activity 1: Give Me Time, Please?

Start Time	End Time	Elapsed Time
1. 06:10	06:40	30 minutes
2. 05:04	05:54	50 minutes
3. 1:05 p.m.	1:50 p.m.	45 minutes
4. 4:45 a.m.	5:45 a.m.	1 hour
5. 7:35 a.m.	9:35 a.m.	2 hours

Activity 2: Time Check

1. C
2. E
3. A
4. F
5. D
6. B

Activity 3: Time is Gold

Problem 2

1. The length of time Allan took to eat his breakfast
2. The start time is 6:00 am and the end time is 6:50 am.
3. Use equation or a number line.
4. 6:50 – 6:00 = 0:50
5. The answer is 50 minutes. It is logical because there is no change in the number in the hour section.

Activity 3: Time is Gold

Problem 3

1. The time of arrival in Canada in Philippine time
2. The trip is 14 hours and 30 minutes long.
   The plane took off at 6:00a.m.
3. Use an equation or a number line.
4. 6:00 + 14:30 = 20:30 or 8:30 p.m.
5. The number line can be used for verification.

References

Lumbre, Angelina P. and Alvin C. Ursua. 2016. *21st Century Mathletes 5 Textbook.* Quezon City: Vibal Group, Inc.

Mathematics LM, Grade 4, p. 117

Regional test Item Bank, Mathematics 5, pp. 116-117

Skill Sharpener in Elementary Mathematics IV, p. 72

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