

Chapter 1: Measuring Time - Practice Exam

Student Copy

Name: _____

Date: _____ Score: _____

Instructions: Answer all items. Show your solution for elapsed time and time-zone problems.

Part A. Convert Time Measures

- 1 year = _____ months
- 1 year = _____ days
- 1 week = _____ days
- 1 day = _____ hours
- 1 minute = _____ seconds
- 1 hour = _____ minutes
- 2 years and 6 months = _____ months
- 1 year and 25 days = _____ days
- 8 weeks and 4 days = _____ days
- 1 hour and 45 minutes = _____ minutes
- 2 days and 11 hours = _____ hours
- 1 hour and 30 minutes = _____ hours
- 2 hours and 15 minutes = _____ hours
- 6 minutes and 45 seconds = _____ minutes

Part B. Math Vocabulary: Measurement Words

Use the review words to complete the diagram.

Word Bank: year, time, milligram, meter, kilometer, centimeter, capacity, hour, gram, milliliter, mass, minute

Length	_____
1. _____	1. kilogram
2. _____	2. _____
3. _____	3. _____
_____	_____
1. liter	1. month
2. _____	2. _____
3. _____	3. _____

Part C. Vocabulary Card Questions

Answer in complete sentences when needed.

- What time does the 24-hour clock show during your family dinner at home?

- What type of clock do you use at home?

- Describe your favorite school activity in the afternoon. What time does this activity usually take place?

- What time do you wake up in the morning on school days? Are you always able to get to school on time?

- What does UTC + 8:00 mean?

- Why do countries have different time zones?

Part D. The 12-hour and 24-hour Time

D1. Express the time using the 12-hour format.

- | | |
|----------------|----------------|
| 1. 04:25 _____ | 5. 23:59 _____ |
| 2. 18:36 _____ | 6. 11:59 _____ |
| 3. 07:45 _____ | 7. 00:40 _____ |
| 4. 18:15 _____ | 8. 21:49 _____ |

D2. Express the time using the 24-hour format.

- | | |
|----------------------|----------------------|
| 9. 08:40 p.m. _____ | 13. 10:50 a.m. _____ |
| 10. 10:30 a.m. _____ | 14. 11:33 p.m. _____ |
| 11. 7:15 a.m. _____ | 15. 6:17 p.m. _____ |
| 12. 9:45 p.m. _____ | 16. 12:09 a.m. _____ |

D3. Find the end time. Write it in 24-hour format.

17. Initial time: 9:36 a.m. Elapsed time: 4 hours and 15 minutes End time: _____

18. Initial time: 8:40 p.m. Elapsed time: 6 hours and 25 minutes End time: _____

19. Explain how you convert time from 12-hour format to 24-hour format.

Part E. Time Format Problem Solving

1. Mr. Reyes had a meeting with a business client in Makati at 1:30 p.m. He left his home in Quezon City at 11:00 a.m. How much time did he need to travel so that he would not be late for the meeting?

2. Carlo's trip to Cagayan province was at 20:20. He reached the bus station at 8:00 p.m. Was he able to catch his bus? Explain.

3. Aira reported that she arrived at her destination and wrote the time 11:35. Did she arrive in the morning or in the evening? Explain.

4. How do different hour formats help you measure time?

Part F. World Time Zones

1. Calculate the time in Auckland, New Zealand (UTC +12:00) when it is 16:01, Monday, in Manila (UTC +8:00). Write the time in 24-hour format and include the day.

2. Compare the time between Alberta, Canada (UTC -7:00) and the United Arab Emirates (UTC +4:00). Fill in: _____ is ahead of _____ by _____ hours. _____ is behind _____ by _____ hours.

F1. Compare the time between the two given cities or countries.

3. Manila (UTC +8:00) and Los Angeles, California (UTC -8:00): Manila is _____ Los Angeles by _____ hours.

4. Chicago, Illinois (UTC -6:00) and Seoul, South Korea (UTC +9:00): Chicago is _____ Seoul by _____ hours.

5. New Delhi, India (UTC +5:30) and Ontario, Canada (UTC -5:00): Ontario is _____ New Delhi by _____ hours.

F2. Calculate the time and day when it is 02:19, Friday, in Manila (PHT / UTC +8:00).

6. Vatican City (UTC +1:00 / CET) _____

8. New Zealand (UTC +12:00 / NZST) _____

7. Melbourne, Australia (UTC +10:00 / AEST) _____

9. Hawaii, USA (UTC -10:00 / HST) _____

F3. Time Zone Problem Solving

10. Gianna stays in Manila and wants to pay a call to her mother in Doha, Qatar (UTC +3:00). She makes a call at 7:30 a.m., Sunday, in Manila. What time and day in Doha will her mother receive the call? Write the time in 24-hour format.

11. A news correspondent in Toronto, Canada (UTC -5:00) will have a live news report for Manila broadcast at 06:00, Toronto time. What time will the live news feed be for Manila broadcast? Write the time in 12-hour format.

12. Adele is booked for a concert in Manila on her way from a musical tour in Bangkok, Thailand. She is leaving Bangkok (UTC +7:00) at 04:10 (THA). Her expected time of arrival in Manila is 08:35 (PHT / UTC +8:00). How long is her flight time?

13. Joel is flying to Toronto, Canada, to study. He takes a direct flight that takes off at 03:30 (PHT), Thursday, from Manila. The flight takes 15 hours and 25 minutes. What time and day in Toronto (UTC -5:00) is he expected to land?

14. Why is it important to understand the different time zones?

Part G. Review: Vocabulary Check

Word Bank: ante meridiem, 24-hour clock, time zone, daylight saving time, post meridiem, UTC -8:00, elapsed time, Universal Coordinated Time, 12-hour clock, UTC +8:00

1. shows time using numbers 1 to 12 _____
2. indicates time from midnight to before noon _____
3. shows time ahead of the Universal Coordinated Time _____
4. counts the full 24 hours continuously _____
5. time measurement between initial time and end time _____
6. indicates time from noon to before midnight _____
7. a region in a country where the same standard time is used _____
8. shows time behind Universal Coordinated Time _____
9. a period of the year when clocks are set one hour ahead _____
10. time standard to synchronize time in the different parts of the world _____

Part H. Review: Concept Check

H1. Write the time using the 24-hour system.

- | | |
|----------------------|----------------------|
| 11. 12:45 a.m. _____ | 13. 11:00 a.m. _____ |
| 12. 9:20 p.m. _____ | 14. 11:55 p.m. _____ |

H2. Write the time using the 12-hour system.

- | | |
|-----------------|-----------------|
| 15. 08:15 _____ | 17. 23:09 _____ |
| 16. 15:30 _____ | 18. 00:05 _____ |

H3. Calculate elapsed time.

19. Initial time: 5:30 a.m. End time: 11:00 a.m. Elapsed time: _____

20. Initial time: 09:08 End time: 14:20 Elapsed time: _____

H4. Write the meaning of each standard time.

21. UTC +1:00

22. UTC -3:00

H5. Calculate the time and day in the given city or country when it is 06:30, Thursday, in Manila.

23. India (UTC +5:30)

24. San Francisco, California, USA (UTC -8:00)

Part I. Review: Problem Solving and Test Practice

25. Emma went to the gym to train at 7:30 a.m. She stayed in the gym until 4:20 p.m. If she spent a total of 1 hour and 45 minutes for her lunch, water, and washroom breaks, how long did she actually train?

26. Mrs. Ramos sent a message to her daughter that she would make a video call at 07:30. Will her call be in the morning or evening? Explain.

27. Rafa flew to New York (UTC -5:00) from Milan, Italy (UTC +1:00) at 05:10. The flight took 8 hours and 45 minutes. What time did he arrive in New York?

28. What is 10:25 p.m. using the 24-hour format?

- A. 10:25 B. 16:25 C. 20:25 D. 22:25

Part J. Reflect: Answering the Essential Question

1. Complete the graphic organizer about time measurement.

12-hour and 24-hour Time Formats <hr/> <hr/> <hr/>	Time Zones <hr/> <hr/> <hr/>
Real-World Example <hr/> <hr/> <hr/>	Essential Question: How does time measurement help us solve real-world problems? <hr/> <hr/> <hr/>

2. Write your answer to the essential question: How does time measurement help us solve real-world problems?
