

Lesson 1 Elapsed Time

Elapsed time
 The difference between the starting time and the ending time.
Elapse
 To slip by

Military personnel tell time using hours up to 24. That means that 16:00 is the same time as 4:00 P.M., and 02:00 is the same time as 2:00 A.M.

Writing About Mathematics
 Write about a way you can figure out elapsed time without subtracting.

Elapsed time is the amount of time that has passed from one time to another. Find the amount of elapsed time by subtracting the earlier time from the later time. If you must rename, then remember that 1 hour is the same as 60 minutes.

EXAMPLES

How much time has elapsed from the time shown on Clock A to the time shown on Clock B?



Clock A shows 3:28 P.M. Clock B shows 7:52 P.M.

$$\begin{array}{r} 7:52 \\ - 3:28 \\ \hline 4:24 \end{array}$$

4 hours and 24 minutes have elapsed.



Clock A shows 2:42 P.M. Clock B shows 7:21 P.M.

$$\begin{array}{r} 7:21 \leftarrow \text{Rename 1 hour to 60 minutes} \rightarrow 6:81 \\ - 2:42 \\ \hline 4:39 \end{array}$$

4 hours and 39 minutes have elapsed.















Clock A shows 11:26 A.M. Clock B shows 4:33 P.M.

$$\begin{array}{r} 4:33 \leftarrow \text{Add 12 hours} \rightarrow 16:33 \\ - 11:26 \\ \hline 5:07 \end{array}$$

5 hours and 7 minutes have elapsed.

Exercise A Subtract to find how much time has elapsed from the time shown on Clock A to the time shown on Clock B.

	A	B		A	B
1.			4.		
2.			5.		
3.			6.		

Exercise B Subtract to find the amount of time that has elapsed.

- | | |
|---------------------------------|----------------------------------|
| 1. From 3:46 A.M. to 7:58 A.M. | 8. From 12:15 P.M. to 2:30 P.M. |
| 2. From 3:45 A.M. to 7:26 A.M. | 9. From 5:36 P.M. to 12:52 A.M. |
| 3. From 5:18 A.M. to 7:25 A.M. | 10. From 6:27 P.M. to 3:49 A.M. |
| 4. From 6:21 P.M. to 11:54 P.M. | 11. From 4:17 P.M. to 7:30 P.M. |
| 5. From 3:59 P.M. to 4:16 P.M. | 12. From 6:30 P.M. to 10:42 P.M. |
| 6. From 3:37 P.M. to 10:21 P.M. | 13. From 4:56 A.M. to 1:23 P.M. |
| 7. From 1:45 P.M. to 11:26 P.M. | 14. From 5:45 A.M. to 9:51 A.M. |

Exercise C Solve these word problems. Use the clock above each problem to help you.



1. Jeff waits for a bus that is scheduled to arrive at 11:45 A.M. How long will Jeff wait?



2. Carlo's favorite TV program, *Albuquerque*, comes on at 9:00 P.M. How long must Carlo wait for his show?



3. Ginny went to sleep at 10:42 last night. When she awoke this morning, she looked at the clock by her bed. How long did she sleep?



4. Barry arrives at the dentist's office at 12:15 P.M. for his appointment. He looks at his watch when his name is called. How long has Barry been waiting?



5. Maria leaves the house at 9:23 A.M. and drives to Dewey Beach. She arrives at the beach and looks at her dashboard clock. How long has Maria been driving?



6. The umpire stops the game because of rain at 7:23 P.M. When play is resumed, Georgia looks at her watch. How long has the game been delayed?