

Elapsed Time

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Application F:
Elapsed Time (Hours),
p. AP5

Calculating Elapsed Time To find elapsed time, subtract the earlier time from the later time.

EXAMPLE 1

Find the elapsed time for someone who worked from:

a. 2:15 PM to 10:30 PM

b. 6:45 AM to 12:56 PM

Subtract.

a.
$$\begin{array}{r} 10:30 \\ - 2:15 \\ \hline 8:15 \end{array}$$
 8:15 or 8 hours, 15 minutes;
written as 8 h:15 min

b.
$$\begin{array}{r} 12:56 \\ - 6:45 \\ \hline 6:11 \end{array}$$
 6:11 or 6 hours, 11 minutes;
written as 6 h:11 min

✓ Concept CHECK

Complete the problems. Check your answers in the back of the book.
Find the elapsed time for a person who worked from:

1. 9:15 AM to 11:15 AM

2. 8:30 AM to 11:50 AM

3. 1:45 PM to 8:50 PM

4. 3:10 PM to 11:15 PM

You cannot subtract 45 minutes from 30 minutes unless you borrow an hour and add it to the 30 minutes. Remember that 1 hour = 60 minutes.

EXAMPLE 2

Find the elapsed time from 1:45 PM to 8:30 PM

Subtract and add.

$$\begin{array}{rcl} 8:30 & = & 7:30 + :60 = 7:90 \text{ borrowed 1 hour} \\ - 1:45 & = & -1:45 = -1:45 \\ & & 6:45 \text{ or 6 h:45 min} \end{array}$$

✓ Concept CHECK

Complete the problems. Check your answers in the back of the book.
Find the elapsed time for a person who worked from:

5. 8:45 AM to 12:30 PM

6. 2:50 PM to 10:20 PM

7. 9:25 AM to 11:10 AM

8. 1:25 PM to 11:15 PM

To find elapsed time when the time period spans 1:00 o'clock, add 12 hours to the later time before subtracting.

EXAMPLE 3

Find the elapsed time from 10:20 AM to 3:30 PM

Subtract and add.

$$\begin{array}{r} 3:30 = (12 + 3) + :30 = 15:30 \\ - 10:20 = -10:20 \quad = -10:20 \\ \hline 5:10 \text{ or } 5 \text{ h:}10 \text{ min} \end{array}$$

✓ Concept CHECK

Complete the problems. Check your answers in the back of the book.

Find the elapsed time for a person who worked from:

- | | |
|------------------------|------------------------|
| 9. 8:30 AM to 4:30 PM | 10. 9:15 AM to 5:30 PM |
| 11. 7:45 AM to 4:00 PM | 12. 9:25 PM to 6:15 AM |

Practice

Find the elapsed time for a person who worked from:

- | | |
|-------------------------|-------------------------|
| 13. 4:30 PM to 11:45 PM | 14. 6:30 AM to 11:45 AM |
| 15. 4:15 PM to 10:10 PM | 16. 7:43 AM to 10:40 AM |
| 17. 8:00 AM to 4:30 PM | 18. 9:15 AM to 6:25 PM |

Find the elapsed time.

- | | |
|------------------------------|------------------------------|
| 19. From 7:35 AM to 11:28 AM | 20. From 2:50 AM to 11:05 AM |
| 21. From 6:20 PM to 11:05 PM | 22. From 1:37 AM to 9:28 AM |
23. Samaki Watson worked from 9:45 AM to 6:12 PM How long did he work?
24. Helene Angell took a bus that left Detroit at 9:25 AM and arrived in Chicago at 3:20 PM How long was the trip? (Disregard time zones.)
25. Tom Henry started mowing his lawn at 10:45 AM and finished at 3:15 PM If he took one hour off for lunch, how much time did he spend mowing his lawn?
26. Boyson's opened at 7:00 AM on Sunday, December 23 and did not close until 6:00 PM on Monday, December 24. How many hours straight did Boyson's stay open?
27. Ashilla Grant started her actuarial exam at 9:45 AM and worked on it for $6\frac{1}{2}$ hours. What time did she finish?