

Time

You can add or subtract units of time to find the elapsed time for an event, or to find the start or end of a period of elapsed time.

The movie started at 7:20 P.M. The theater showed 12 minutes of previews for upcoming movies and then began the main feature. The movie ended at 9:16 P.M. How long was the main feature?

Step 1: Add the time of the ads to the start time to find when the main feature started. Write the times in hours (h) and minutes (min).

$$\begin{array}{r} \text{Start time:} \quad 7 \text{ h } 20 \text{ min} \\ \text{Time of ads} \quad + \quad 12 \text{ min} \\ \hline 7 \text{ h } 32 \text{ min} \end{array} \quad \text{The main feature began at 7:32 P.M.}$$

Step 2: Subtract the time the movie started from the time it ended.

$$\begin{array}{r} \text{End time:} \quad 9 \text{ h } 16 \text{ min} \\ \text{Start time:} \quad - 7 \text{ h } 32 \text{ min} \\ \hline 1 \text{ h } 44 \text{ min} \end{array}$$

To subtract, regroup 1 hour as 60 minutes,

The movie was 1 hour 44 minutes long.

Find each elapsed time.

1. Start: 2:17 P.M.
End: 7:28 P.M.

2. Start: 9:15 A.M.
End: 11:08 A.M.

3. Start: 10:32 A.M.
End: 1:56 P.M.

Find each start or end time.

4. Start: 4:13 P.M.
Elapsed: 3 h 12 min

5. Start: 3:44 P.M.
Elapsed: 8 h 2 min

6. End: 12:03 A.M.
Elapsed: 5 h 52 min

7. Kari ran some errands for her mother. She left the house at 9:38 A.M. and returned at 11:14 A.M. How long did it take Kari to run the errands?

8. Gregg works the second shift at the factory. He reports to work at 2:45 P.M. and leaves at 11:00 P.M. During his shift he takes two 20-minute coffee breaks and one $\frac{1}{2}$ hour lunch break. How long does Gregg spend actually working?
