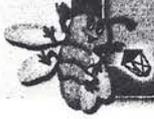


## Lesson 18 Elapsed Time



B.1.1.3: Calculate the elapsed time, to the minute, in a given situation (limited to 2 adjacent hours)

B.1.1.4: Determine the beginning and/or ending time when given the elapsed time (limited to 2 adjacent hours)

**Elapsed time** is the amount of time that passes between two events.

### EXAMPLE 1

A movie starts at 4:05 and ends at 5:47. How long is the movie?

**STRATEGY** Find the difference between the two times.

**STEP 1** How many whole hours are there from 4:05 to 5:05?

There is 1 hour from 4:05 to 5:05.

**STEP 2** How many minutes are there from 5:05 to 5:47?

$$47 - 5 = 42$$

There are 42 minutes from 5:05 to 5:47.

**SOLUTION** The movie is 1 hour 42 minutes long.

If you know the elapsed time, you can use it to find out when something begins or ends.

### EXAMPLE 2

It takes Selena 1 hour 23 minutes to complete her workout at the gym. If she starts at 1:28, what time will she finish?

**STRATEGY** Start at 1:28. Add the hours and minutes.

**STEP 1** Add 1 hour to the start time.

$$1:28 + 1 \text{ hour} = 2:28$$

**STEP 2** Add 23 minutes to Step 1.  
 $2:28 + 23 \text{ minutes} = 2:51$

**SOLUTION** Selena will finish her workout at 2:51.

### EXAMPLE 3

Zack ran a race in 1 hour 7 minutes. He finished the race at 3:10. At what time did he start?

**STRATEGY** Start at 3:10 and work backward.

**STEP 1** Subtract 1 hour from Zack's start time.  
 $3:10 - 1 \text{ hour} = 2:10$

**STEP 2** Subtract 7 minutes from 2:10.  
 $2:10 - 7 \text{ minutes} = 2:03$

**SOLUTION** Zack started the race at 2:03.

A DVD runs for 1 hour 38 minutes. If Macie starts the DVD at 7:15, at what time will it end?

Let's check it out.

What is the start time? \_\_\_\_\_

What is the time 1 hour later? \_\_\_\_\_

What is the time 38 minutes after that? \_\_\_\_\_

The DVD will end at \_\_\_\_\_.



## Brief Constructed Response

**11.** Abdul rented a movie that runs for 1 hour 47 minutes. He wants to finish the movie at 9:55.

A. At what time should Abdul start the movie?

B. Use what you know about elapsed time to explain why your answer is correct. Use words and/or numbers in your explanation.