

Lesson 21

Solve Problems About Time

Name: _____

Prerequisite: Tell Time to the Minute

Study the example problem showing how to tell time to the minute. Then solve problems 1–7.

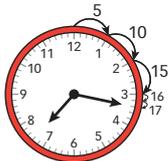
Example

Oscar took his pet hamster out of its cage to play. The clock shows what time it was. What time did Oscar take the hamster out of the cage?

The hour hand shows that it is between 7 and 8 o'clock. It takes 5 minutes for the minute hand to move from one number to the next. It takes 1 minute for the minute hand to move from one mark to the next.

Count by fives from the 12 to the 3. Then count 2 more minutes.

The clock shows 17 minutes after 7, or 7:17.
Oscar took the hamster out of the cage at 7:17.



Draw lines to match clocks that show the same time.

B 1

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Solve.

M 2 Look at the arrows on the clock. Count by fives and by ones to find the minutes before the hour. Fill in the blanks.

5, 10, 11, 12, 13, 14
It is 14 minutes before 5:00.



Write the time in two ways.

M 3 10:39
21 minutes before 11:00



M 4 6:48
12 minutes before 7:00



Draw the hands on the clock to show the time.

M 5 It is 22 minutes before 4:00. **M** 6 It is 9 minutes after 9:00.



B 7 Write the times from problems 5 and 6 on the clocks below.



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Key

B Basic **M** Medium **C** Challenge



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Find the End Time in Word Problems

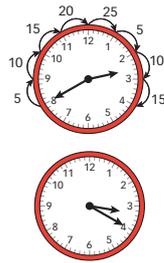
Study the example problem showing how to find the end time when you know the start time and the elapsed time. Then solve problems 1–6.

Example

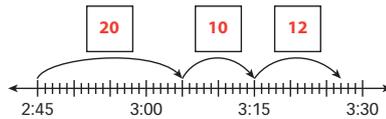
Anna started walking her dog, Pickles, at 2:40. She walked for 25 minutes. Then she played ball with Pickles for 15 minutes. What time did Anna finish?

Start at 2:40. Count 25 minutes for the walk. Then count 15 minutes for playing ball. The minute hand went past 12, so the hour moved ahead to the 3. The minute hand ended on the 4.

The second clock shows the end time, which is 3:20.



- B 1** Alma got to the playground at 2:45. She spent 20 minutes on the swings and 10 minutes on the jungle gym. She played on the slide for 12 minutes. Then she went home. What time did Alma go home? Fill in the blanks.



Alma went home at 3:27.

- M 2** Juanita got in line for the Safari Ride at 11:55. She waited in line for 8 minutes. The ride lasted for 7 minutes. What time did she get off the ride?



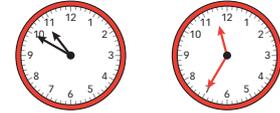
Solution: 12:10

Vocabulary

elapsed time the time between a start time and an end time.

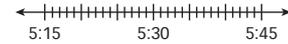
Solve.

- B 3** Jay went outside at 10:50 and spent 35 minutes looking for worms. Then he took 10 minutes to collect his gear. After that Jay went fishing. What time did Jay leave to go fishing? Draw hands on the clock to show the time. Write the time.



Jay left to go fishing at 11:35.

- B 4** Kareem started climbing on the rock wall at 5:20. He climbed for 16 minutes. What time did Kareem finish climbing on the rock wall?



Solution: Kareem finished climbing at 5:36.

- M 5** The Mendoza family left home at 10:30. They drove 25 minutes and stopped at the store. The family spent 20 minutes in the store. Then they drove another 13 minutes to get to the beach. What time did they get to the beach?

Show your work.

Students might draw a number line or clock face to find the solution.

Solution: The Mendoza family got to the beach at 11:28.

- C 6** Sharna leaves school at 3:10. It takes 12 minutes for her to walk home from school. It takes 7 minutes for her to gather her soccer equipment and 10 more minutes to get to the soccer field. Soccer practice starts at 3:45. Sharna thinks she will be late. Do you agree? Explain.

Possible answer: I disagree. Sharna will be home from school at 3:22. She will be ready to leave for practice at 3:29. She'll be at practice 10 minutes later, which is 3:39. Sharna will be on time.



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Find the Start Time in Word Problems

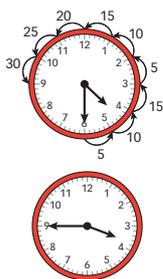
Study the example problem showing how to find the start time when you know the end time and the elapsed time. Then solve problems 1–5.

Example

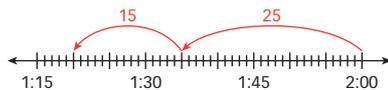
Ming is riding her bike to Carmen's house. She wants to be there by 4:30. First she has to do homework for 30 minutes. The bike ride takes 15 minutes. What time should Ming start her homework?

Start at 4:30. Count back 15 minutes for the bike ride. Then count back 30 minutes for homework. The minute hand went past 12, so the hour moved back to the 3. The minute hand ended on the 9.

The second clock shows the start time, which is 3:45. Ming should start her homework by 3:45.



- M 1** Johanna and her mom want to get to the birthday party at 2:00. It is a 25-minute walk. On the way, they plan to stop for 15 minutes to get a card. What time should they leave? Show how to count backward on the number line.



Solution: Johanna and her mom should leave at 1:20.

- M 2** If they drive, it takes 8 minutes to get to the party. Johanna and her mother still want to stop and get a card. What time should they leave if they drive to the party? Explain.

Possible explanation: The drive takes 17 minutes less than the walk. I added

17 minutes to my answer for problem 1. They should leave at 1:37.

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Solve.

- M 3** A movie starts at 5:15. Rudy wants to get to the theater 25 minutes before the movie starts. It takes 10 minutes to drive to the theater. What time should Rudy leave home?

Show your work.

Students might draw a number line or clock face and count back 25 minutes from 5:15 to get 4:50, then back 10 minutes to get 4:40.

Solution: Rudy should leave home at 4:40.

- C 4** Carlos played on the playground for 12 minutes. Then he swam at the pool for 25 minutes. He finished at 12:00. What time did he start playing?

Show your work.

Students might draw a number line or clock face and count back 25 minutes from 12:00 to get 11:35, then back 12 minutes to get 11:23.

Solution: Carlos started playing at 11:23.

- C 5** Allie was done with gymnastics practice at 7:30. At practice, she tumbled for 20 minutes. Then she worked on the balance beam for 10 minutes. Allie also practiced on the trampoline for 15 minutes. What time did she start practice?

Show your work.

Students might draw a number line or clock face and count back 20 minutes, 10 minutes, and 15 minutes from 7:30.

Solution: Allie started practice at 6:45.

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Solve Problems About Time

Solve the problems.

C

1 The Soto family sat down at a table at a restaurant. Then they waited 10 minutes to order their food. They waited 20 minutes until the food arrived. They took 25 minutes to eat dinner and were done at 6:30. What time did they sit down at the table? Circle the letter of the correct answer.

Is the time they sat down before or after 6:30?



- A** 5:25 **C** 5:45
B 5:35 **D** 7:25

Dana chose **D** as the correct answer. How did she get that answer?

Possible answer: Dana used 6:30 as the start time instead of the end time. She counted forward 10 + 20 + 25 minutes from 6:30.

M

2 Rashid made a stuffed bear at the toy store. He started at 4:40. He spent 25 minutes at the stuffing table and 21 minutes at the decorating table. Then he was done. What time did he finish?

How many minutes does it take the hour hand to move to the next hour?



Show your work.

Students might draw a number line or clock face and count forward 25 minutes, then 21 minutes from 4:40.

Solution: Rashid finished at 5:26.

Solve.

C

3 Gino and his brothers, Brad and Tony, want to leave at 11:15 to go to the park. Choose Yes or No to tell whether each brother will be ready in time.

Do you count forward or backward from each start time?



- a.** Gino starts at 10:50. He takes 15 minutes to shower and 8 minutes to get dressed. Yes No
- b.** Brad starts at 10:45. He takes 15 minutes to eat a sandwich and 10 minutes to wash up. Yes No
- c.** Tony starts at 11:05. He takes 9 minutes to get dressed and 3 minutes to brush his teeth. Yes No

B

4 How long is it from 7:06 to 7:32? Circle the letter of the correct answer.

How might you use subtraction to find the answer?



- A** 16 minutes **C** 26 minutes
B 24 minutes **D** 38 minutes

C

5 Nathan's family wants to be at Grandma's house by 10:45. They need to take a 50-minute bus ride. Then they have to walk for 12 minutes. They can take a bus that leaves at 9:45 or one that leaves at 9:30. Which bus should the family take? Explain.

It's okay to get there a little early.



Possible answer: If they take the 9:45 bus, the family will be there at 10:47. If they take the 9:30 bus, they will be there at 10:32. They should take the 9:30 bus to get there on time.

