Math Kangaroo Level 5-6

Time, Clocks, and Calendars

Warm Up

Instruction

Clock and calendar problems

Wrap Up

Bonus Slides

Warm Up: Time, Clocks, and Calendars

(MK 1999 #5)

How many times faster does the minute hand of any clock move than the hour hand?

What we have learned

- Lesson 2: Patterns ✓
- Lesson 3: Algebraic Thinking ✓
- Lesson 4: Ratio & Proportion ✓
- Lesson 5: Multiples, Factors, and Divisibility ✓
- Lesson 6: Time, Clocks, and Calendars
- Lesson 7: 2D Geometry
- Lesson 8: 3D Geometry
- Lesson 9: Hands On

Some facts you may need when solving problems about time:

1 year = 12 months = 365 (or 366) days

1 day = 24 hours

1 hour = 60 minutes

Half hour = 30 minutes

1 minute = 60 seconds

Time (am/pm)	Time (24h format)
12 AM	00:00
1 AM	01:00
2 AM	02:00
3 AM	03:00
4 AM	04:00
5 AM	05:00
6 AM	06:00
7 AM	07:00
8 AM	08:00
9 AM	09:00
10 AM	10:00
11 AM	11:00

Time (am/pm)	Time (24h format)
12 PM	12:00
1 PM	13:00
2 PM	14:00
3 PM	15:00
4 PM	16:00
5 PM	17:00
6 PM	18:00
7 PM	19:00
8 PM	20:00
9 PM	21:00
10 PM	22:00
11 PM	23:00

(MK 2019 #3)

1. A digital clock in 24-hour mode shows the time 20:19. What will the clock show the next time it uses the same digits?

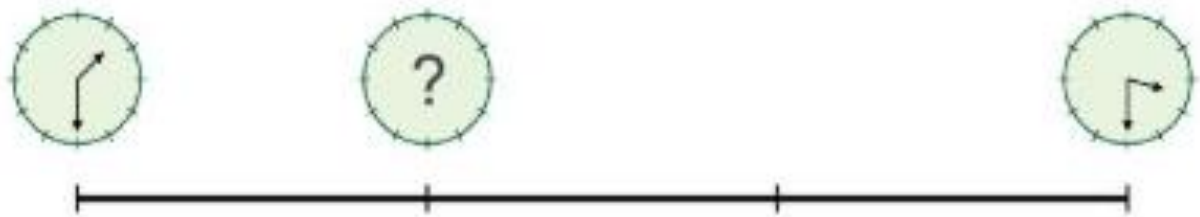
2. One night and day on Mars is 40 minutes longer than on earth. How much longer is a week on Mars than on earth?

3. A wall clock strikes every hour. The number of strikes corresponds to the time, so, for example, at 10:00 AM and at 10:00 PM you will hear 10 strikes. The clock also strikes once at the half-hour mark. How many strikes can be heard in one 24-hour period?

4. A movie starts at 1:47 p.m. and finishes at 4:18 p.m. How long is the movie?

5. Ian was born on January 1st, 2002, and is older than Peter by 1 day less than 1 year. What is the date of Peter's birth?

6. Ann rides her bicycle throughout the afternoon at a constant speed. She sees her watch at the beginning and at the end of the ride with the following result:



What time does the clock show when Ann finishes 1/3 of the ride?

7. When Mr. Kowalski was asked how old he was, he said, “I have lived 44 years, 44 months, 44 weeks, 44 days, and 44 hours.” How many years old is Mr. Kowalski?

8. Ian released a homing pigeon at 7:30 a.m. The pigeon arrived at its destination at 9:10 a.m. How many miles did the pigeon travel if it flies 4 miles in 10 minutes?

Bonus Question: Time, Clocks, and Calendars

(MK 2002 #19)

The day after his birthday Johnny said: “The day after tomorrow will be Thursday.” On what day of the week did Johnny have his birthday?