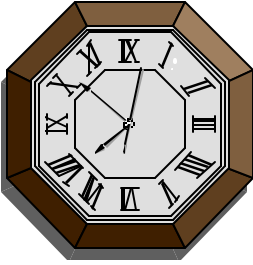
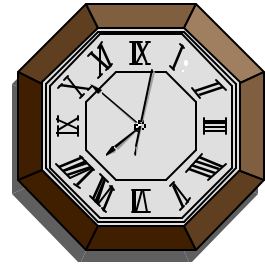


Problem of the Month



Once Upon a Time



Level A:

When it is four o'clock, how many minutes must pass before the big hand (minute hand) gets to where the little hand (hour hand) was at four o'clock?

How did you figure it out?

When it is six-thirty, how many minutes must pass before the big hand (minute hand) gets to where the little hand (hour hand) was at six-thirty?

Explain the way you figured it out.

Level B:

How old are you?

- State your answer in years.
- State your answer in seasons.
- State your answer in months.
- State your answer in weeks.

What date is it?

What number day of the year is it?

How many more days until January 1?

Level C:

I met a man who said if you can guess my age, I will pay you one dollar for each year that I have lived. I will also give you two hints. If you take my age and divide it by any odd number greater than 1 and less than 9 you will get a remainder of 1. But if you take my age and divide it by any even number greater than 1 and less than 9 you will not get a remainder of 1.

How much money could you earn?

Explain your solution and how you know it is the only correct answer.

Level D:

An eccentric clockmaker built three different clocks.

The first clock was a five-minute clock designed with an alarm set to sound each time the hand reached the number 2.

The second clock was a six-minute clock designed to sound each time the hand reached the number 3.

The third clock was a seven-minute clock designed to sound each time the hand reach the number 4.

The clockmaker started the clocks simultaneously on day, and each clock began to sound at its appropriate time. Was there a time when all three clocks sounded their alarms together? If so, tell when it occurred and explain why. If not, explain why not.

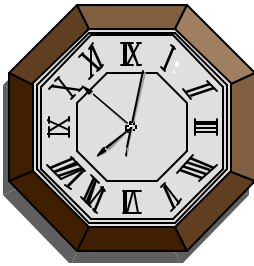
Level E:

The minute hand and hour hand on a clock form a 48° angle. What time is it?

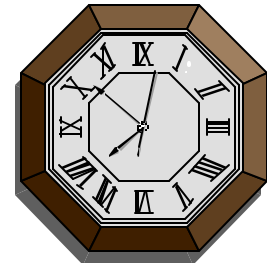
At what other times during the day do the same hands on the clock form a 48° angle?

How many times in a day (24 hour period) do the hands form a 48° angle?
Explain your reasoning.

Problem of the Month



Once Upon a Time



Primary Version Level A

Materials: A large demonstration clock, a small clock per group.

Discussion on the rug: (Teacher holds up the clock set at 4:00) "What time does this clock say?" (Teacher solicits answers from students)
"Which is the minute hand? Which is the hour hand?" (Teacher solicits answers from students, teacher may refer to hands as big and small).
"How do the hands move around the clock?" (Students demonstrate).
"Which hand moves the fastest?"

In small groups: (Each group has an individual clock) The teacher states the following.

Set your clock to 4 o'clock. Which direction do the hands move? Which is the minute hand (big hand)? How many minutes must pass before the minute hand gets to where the hour hand (little hand) is now? Draw a picture or explain using words how you know.

Set your clock to 6:30. Which direction do the hands move? Which is the minute hand (big hand)? How many minutes must pass before the minute hand gets to where the hour hand (little hand) is now? Draw a picture or explain using words how you know.

(At the end of the investigation have students either discuss or dictate a response to this summary question)