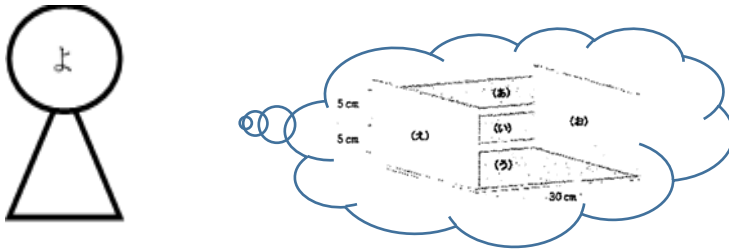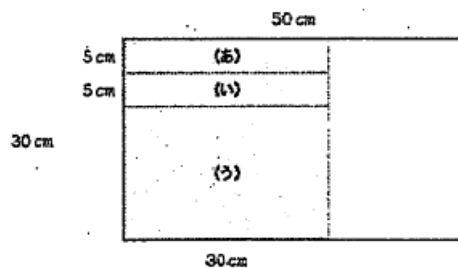**Elementary school 6th grade Math 3**

[Shapes] Lines from the video

T: Today in arts and crafts, we are going to make a book shelf. We will give out one wooden board to each student, so let's think about what kind of bookcase we want to make.

Yoshio: Hmmm... what kind of book shall I make?

Yoshio: Let's make it look like this! Let's draw a line where I will cut by saw.

Yoshio: Alright, so far, so perfect! Now all that's left is the horizontal part. It would be wasteful if some part of board remains, so let's not waste it. Now, where should I cut it? It would be better if the size of the partition should be the same ...
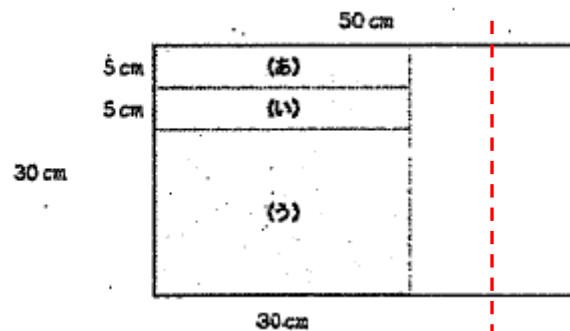
Reminiscence scene

T: Do you remember what we said about two figures that have the same shape?

Yes, we called it a congruent figure. What are the conditions for a congruent figure?

Classroom

Yoshio: Since the sizes of the two handles are partition, it would be better if the lengths of their corresponding sides were the same. So, if we cut the extra board in half, the corresponding side lengths will be the same!
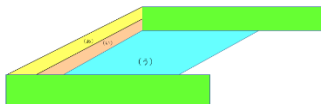
Here!

Yoshio: Alright, I'll try to make it!

Reminiscence scene

T: Yoshio-san, you tried cutting it upright, right?First of all, if you cut it vertically ... here is 50 cm, here is 30 cm, so the length here is 50-30 i.e. 20 cm. Cut 20 cm in half, so the length here will be 10 cm. On the other hand, the length of this one is the same as this one, so it will be 30 cm. If you place it as shown in the completed figure, you will have a rectangle with a length of 10 cm and a width of 30 cm.
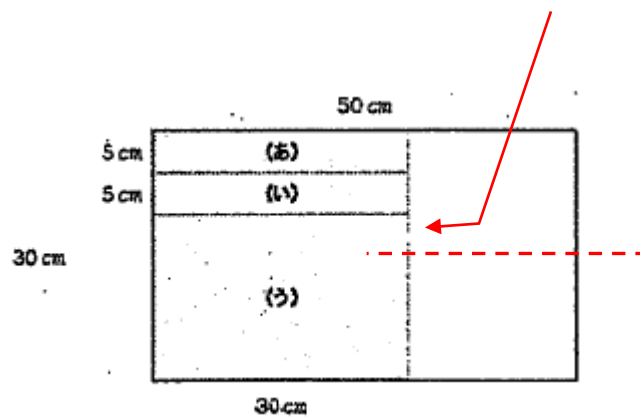

Classroom

Yoshio: It's done!

Oh my~! What is this~? Isn't the partition sticking out!? This is not good. Failure, failure. It doesn't matter what you do as long as it's a joint figure.

So, I'll start over and pretend that what I just did didn't happen.

Sensei! One please give me one more board! ... What! don't have any~. That's right~. But this is a video, so rewind it! Okay, it's returned to the original!

When I cut it in half vertically, I made a mistake, so I'll cut it in half horizontally, right? The length here is 30 cm, so to join, I need to divide 30 by 2, which is 15 cm! Let's cut here!

Reminiscence scene

T: Yoshio-san made a mistake once, but he made the most of his mistake and cut horizontally.

If you cut horizontally, the length of the cut will be 30 cm, so the cut should be made at the point where the length of the cut is 30 ÷ 2 (15 cm). If you place it as shown in the completed diagram, you will have a rectangle with a height of 15 cm and a width of 20 cm.

Classroom

Yoshio: Yes, it's done! It's done! Sensei, please take a look~.

T: You did a great job, Yoshio-san.

When we make bookends like today's, we often use what we have learned in arithmetic, such as deriving the length of an unknown side from the length of a known side, or using the concept of "congruence" that we learned in shapes, We will be using more of what we have learned in math. It is also important to be able to convey numbers, units, and the names of shapes to tell others what kind of shape you want, such as "a rectangle with a vertical length of 15 cm and a horizontal length of 20 cm. This is called "mathematical expression.