

Algebra and Formulas: Conditional sentences

1) Read the explanation below:

Talking about deductions

We can talk about deductions with **if + present simple, then + present simple**.

Examples:

If the walls beside the window are equal, then we can call the length of the two walls $2x$.

If $2x$ equals 6 metres, then x must be 3 metres.

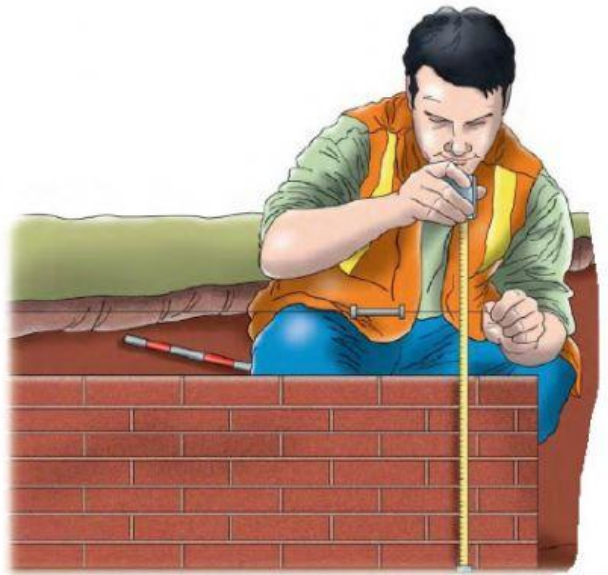
2) Read and correct the mistake in each sentence

- 1 If the walls next to the window is equal, then you don't need to measure them.
- 2 If the side walls are equal, the combined length of the two walls must $2x$.
- 3 So wall A is 3 metres long, then wall B must be 3 metres.
- 4 If we represented 3 m as 3,000 mm, then we can solve the equation.
- 5 If we are moving 400 to the other side, $3,000 - 400$ is $2x$.

3) Complete the equation with the words from the box

and if means must so then therefore

- 1 _____ wall A = 3,000 mm and wall B = $2x + 400$
- 2 _____ $2x + 400 = 3,000$
- 3 which _____ that $2x = 3,000 - 400$
- 4 _____ $2x$
- 5 _____ be 2,600
- 6 _____ $x = 2,600 \div 2$
- 7 _____ $x = 1,300$



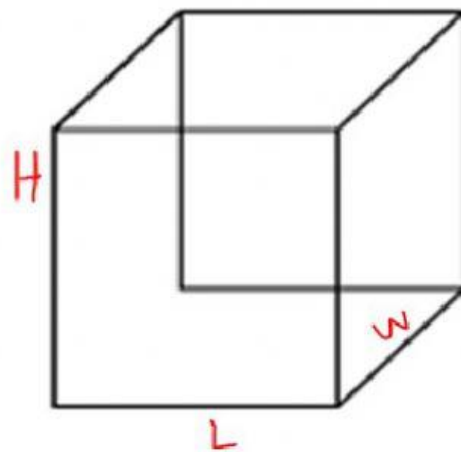
Let's practice:

This cube represents the classroom.

Average volume of a person = $p \text{ cm}^3$

The total volume of furniture = $f \text{ cm}^3$

How much air is there in the room? Write explain the equation (not a calculation)



and



5) Listen and complete the summary of the reading text. Write one word or number in each space.

When there is only one _____ in an equation, you can work out its value with _____

We can represent the unknown by a _____, for example, x .

If $2x + 400 = 3,000$, then $2x =$ _____ - 400. Therefore $2x = 2,600$, which _____ that $x = 1,300$.

6) Read the conversation. Circle the formula or formulas they are talking about.

$$s = \frac{d}{t}$$

$$d = st$$

$$t = \frac{d}{s}$$

Man 1: Hi, there. How are you?

Man 2: Fine. And you?

Man 1: OK. Well, actually, I'm a bit tired.

Man 2: Why's that?

Man 1: I've just driven from London.

Man 2: Really? How long did it take?

Man 1: Two hours.

Man 2: What was your average speed?

Man 1: I don't know.

Man 2: Well, it's easy to work out, isn't it?

Man 1: Is it?

Man 2: Yes. How far is it from London?

Man 1: 100 kilometres.

Man 2: So, your average speed was 50 kilometres per hour.

Man 1: How did you work that out?

Man 2: I used the formula s equals d over t .

Man 1: What does that mean?

Man 2: Speed equals distance divided by time.

Man 1: Right. So you can calculate the speed if you know the distance and the time.

Man 2: You can do more than that. You can work out any of the variables if you know the other two.

Man 1: I don't understand.

Man 2: Well, if s equals d over t , then d must be s times t . Change the side and change the sign, remember?

Man 1: Right. And t must be d over s .

Man 2: Exactly.