



**AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES  
SCHOOLS ENRICHMENT CENTRE  
TEACHER NETWORK**

Put the missing symbol into the box to make these number sentences correct.

Use the symbols +, -, ×, ÷ and =.

$$17 \square 21 = 38$$

$$17 \square 3 = 51$$

$$57 \square 29 = 28$$

$$9 \square 63 \div 7$$

You can make most of the number sentences below correct by putting in symbols in two different ways.

Find the solutions and explain why some of the sentences have only one solution.

$$79 \square 23 \square 56$$

$$96 \square 3 \square 32$$

$$52 \square 13 \square 39$$

$$21 \square 69 \square 90$$

$$75 \square 25 \square 3$$

$$4 \square 16 \square 64$$

### **SOLUTION**

$$17 + 21 = 38$$

$$17 \times 3 = 51$$

$$57 - 29 = 28$$

$$9 = 63 \div 7$$

$$79 = 23 + 56 \quad \text{and} \quad 79 - 23 = 56$$

$$96 \div 3 = 32 \quad \text{and} \quad 96 = 3 \times 32$$

$$52 - 13 = 39 \quad \text{and} \quad 52 = 13 + 39$$

$$21 + 69 = 90 \quad \text{To write this as a subtraction we have to change the order of the numbers } 69 - 90 \neq 90 - 69$$

$$75 \div 25 = 3 \quad \text{and} \quad 75 = 25 \times 3$$

$$4 \times 16 = 64 \quad \text{To write this as a division we have to change the order of the numbers } 16 \div 64 \neq 64 \div 16$$

## **NOTES FOR TEACHERS**

### **Why do this activity?**

This activity is designed to help young learners to use the symbols plus, minus, multiplied by, divided by and equals to, meaningfully, in number statements. Learners often meet boxes or similar devices to represent numbers but seldom the actual operational symbols. This problem also helps learners understand inverse operations.

## **Possible approach**

You could start with an example like the ones given at the beginning of the problem and then make up some more of the same sort so that the learners understand what they have to do.

After this write all the examples on the board. The learners could work in pairs on the examples so that they are able to talk through their ideas with a partner.

At the end of the session the group could gather together again and put up their ideas on the board. You should also discuss why four of the double number sentences have two answers and two only have one answer. Can they see why this is so?

This problem could also be used as a people maths activity during an assembly with children standing in line holding cards at the front of the room, thus forming a human equation. The audience can tell the 'symbols' where to stand.

## **Key questions**

What does this symbol mean?

Which symbol tells you to take away?

What do you have to do to "undo" an addition? What about a subtraction?

What do you have to do to "undo" a multiplication? What about a division?

## **Possible extension**

Learners could make some more number statements which can be done in more than one way. Can they make one that can be done three or even four ways?

## **Possible support**

It might help learners to have counters or small pieces of paper with the five symbols on them which can be moved around between the numbers.