THE EQUALS SIGN: A NONTRIVIAL SYMBOL

Luke, Cameron, Fiona, and Chris were all asked to answer this question:

$$7 + 6 = ? \ + 5$$

Source: education.vic.gov.au (Victoria State Government)

$$7 + 6 = ? + 5$$

Luke: 7 + 6 = 13 + 5

Teacher: *Luke, what number did you put in the box?*
Luke: *Thirteen*
Teacher: *How did you decide?*
Luke: *7 and 6 are 13*
Teacher: *What about the 5?*
Luke: *It doesn't matter. The answer to 7 + 6 is 13*
Teacher: *What is the 5 doing then?*
Luke: *It's just there.*

Source: education.vic.gov.au (Victoria State Government)

$$7 + 6 = ? + 5$$

Cameron: 7 + 6 = 18 + 5

Teacher: *Cameron, what number did you put in the box?*

Cameron: *Eighteen*

Teacher: *How did you decide?*

Cameron: *7 and 6 are 13 and 5 more is 18*

Teacher: *Does 7 plus 6 equal 18 plus 5?*

Cameron: *7 + 6 is 13 and 5 more is 18*

Source: education.vic.gov.au (Victoria State Government)

$$7 + 6 = ? + 5$$

Fiona: 7 + 6 = 8 + 5

Teacher: *Fiona, what number did you put in the box?*

Fiona: *Eight*

Teacher: *How did you decide?*

Fiona: *7 and 6 gives 13 and I then thought what number goes with 5 to give 13.*

7 + 6 is 13 and 5 + 8 is 13

Source: education.vic.gov.au (Victoria State Government)

$$7 + 6 = ? + 5$$

Chris: 7 + 6 = 8 + 5

Teacher: *Chris, what number did you put in the box?*

Chris: *Eight*

Teacher: *How did you decide?*

Chris: (Points to the numbers) 7 + 6 = ☐ + 5

5 is one less than 6, so you need a number that is one more than 7 to go in the ☐ so it all balances.

Source: education.vic.gov.au (Victoria State Government)