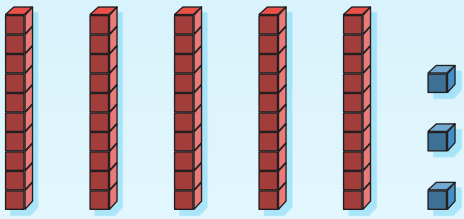
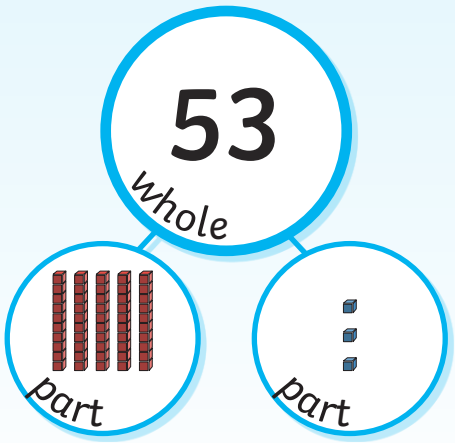
Partitioning 2-Digit Numbers in Different Ways

Mia has represented a 2-digit number using base ten.

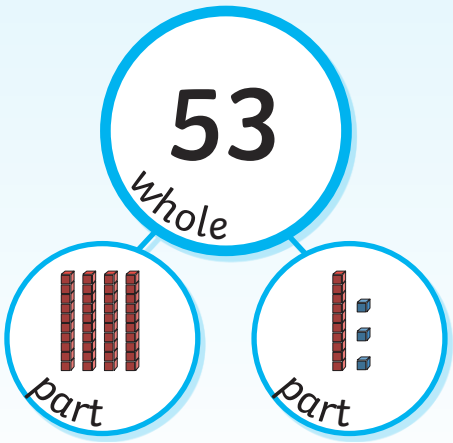
I have made the number 53.
It has 5 tens and 3 ones.



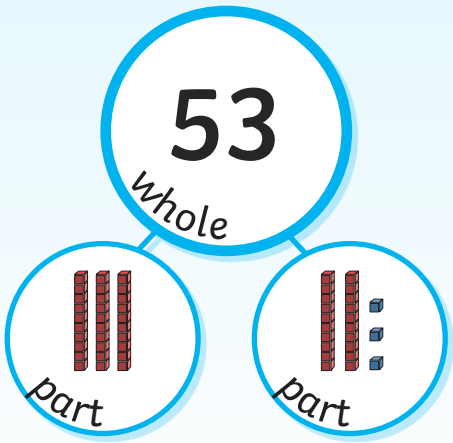
Mia arranges the base ten to show three different ways of partitioning 53.



53 = 50 + 3



53 = 40 + 13

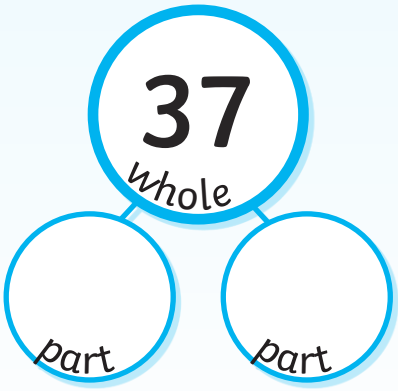


53 = 30 + 23

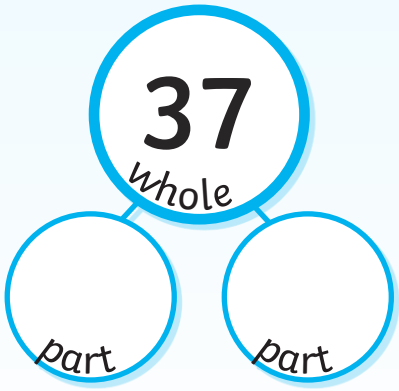
What do you notice? Discuss with a friend any patterns you can see.

Complete the sentence and find three ways of partitioning each 2-digit number.

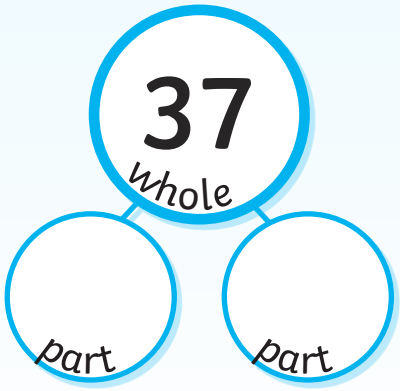
1) 37 has ☐ tens and ☐ ones.



37 = ☐ + ☐

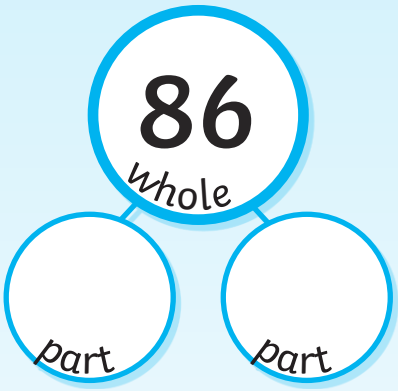


37 = ☐ + ☐

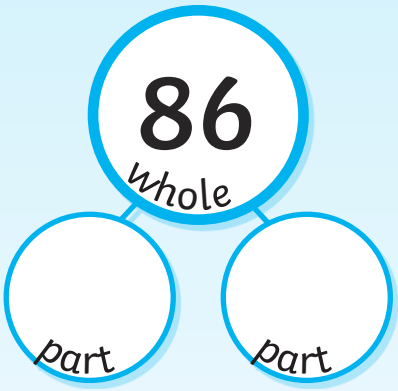


37 = ☐ + ☐

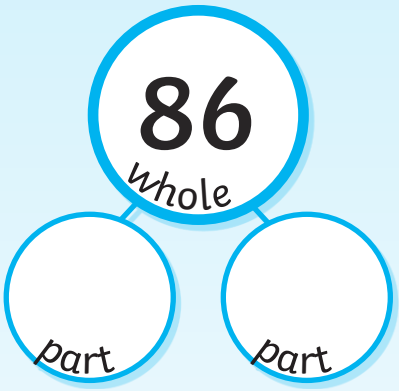
2) 86 has ☐ tens and ☐ ones.



86 = ☐ + ☐

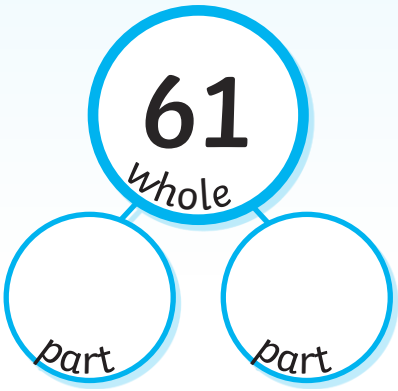


86 = ☐ + ☐

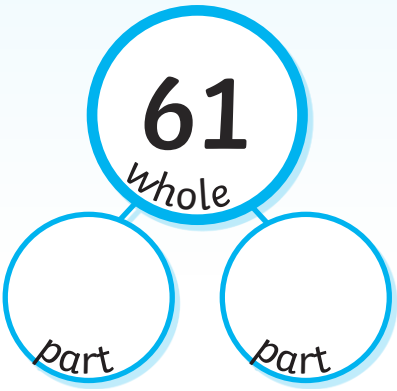


86 = ☐ + ☐

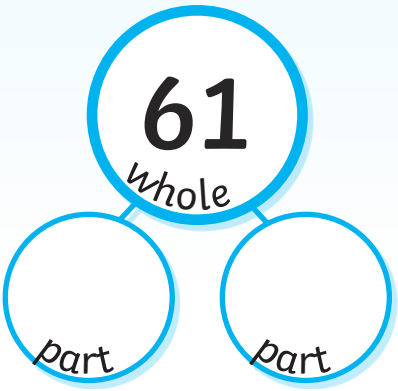
3) 61 has ☐ tens and ☐ ones.



61 = ☐ + ☐

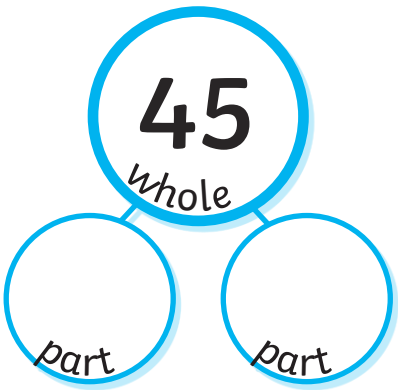


61 = ☐ + ☐

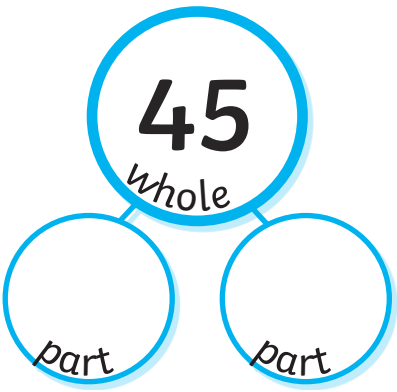


61 = ☐ + ☐

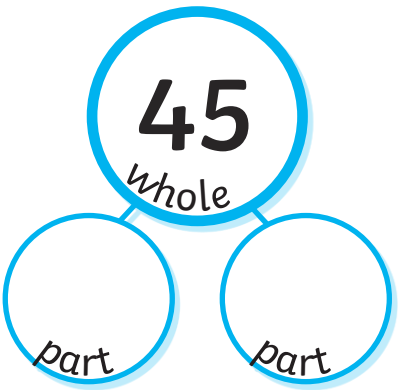
4) 45 has ☐ tens and ☐ ones.



45 = ☐ + ☐

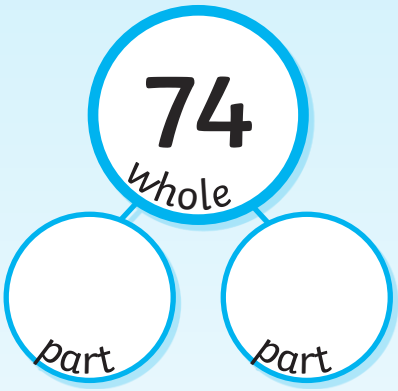


45 = ☐ + ☐

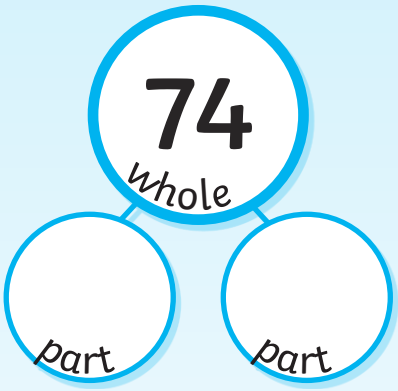


45 = ☐ + ☐

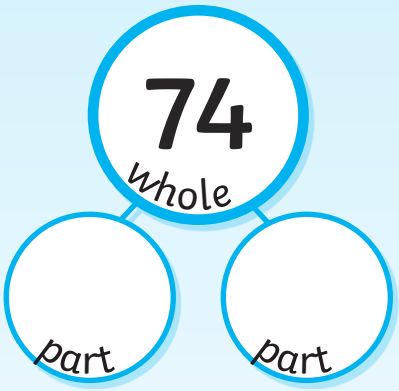
5) 74 has ☐ tens and ☐ ones.



74 = ☐ + ☐

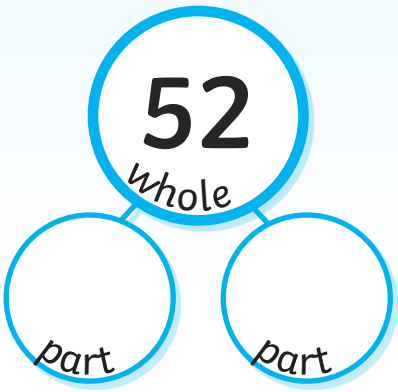


74 = ☐ + ☐

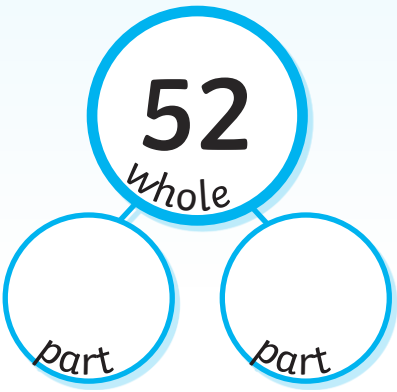


74 = ☐ + ☐

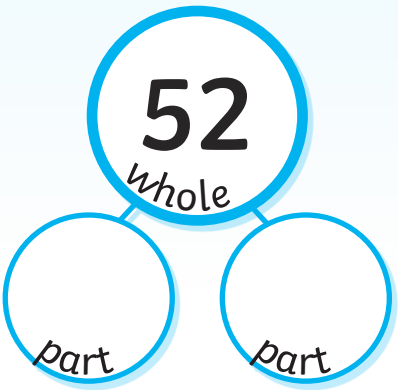
6) 52 has ☐ tens and ☐ ones.



52 = ☐ + ☐

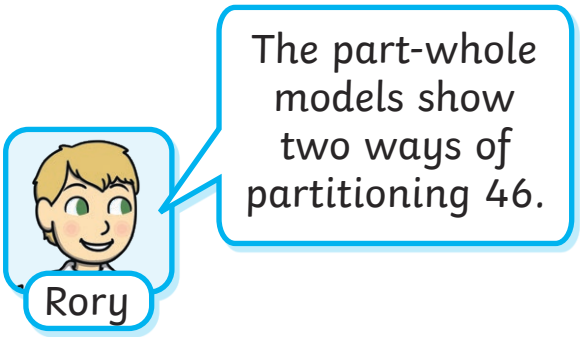


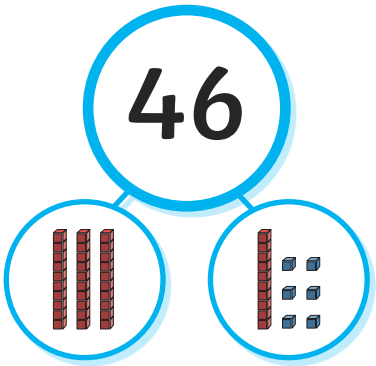
52 = ☐ + ☐

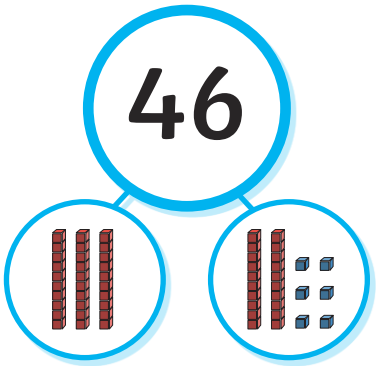


52 = ☐ + ☐

7) Can you spot the mistake? What should Rory have done differently?



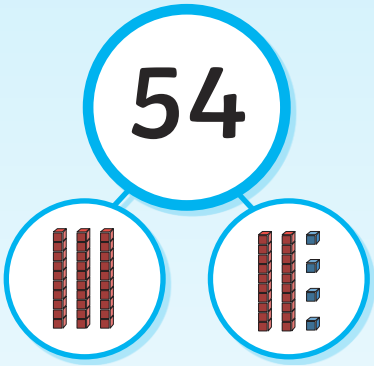


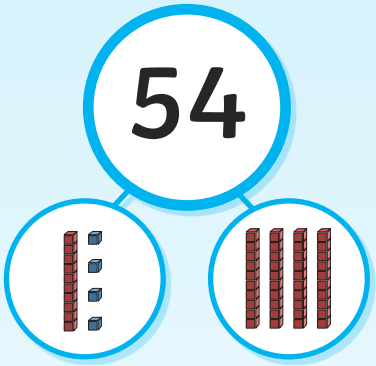


8) Is this statement true or false? Explain why.

Mia

I have found two different ways to partition the same 2-digit number.



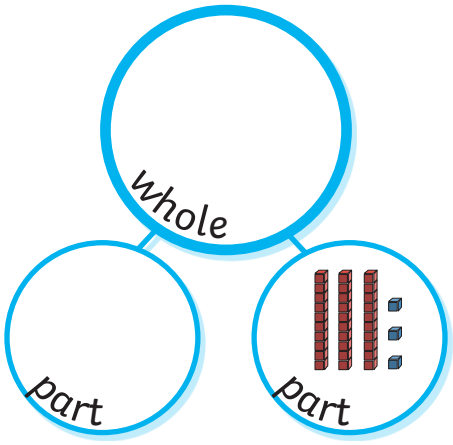


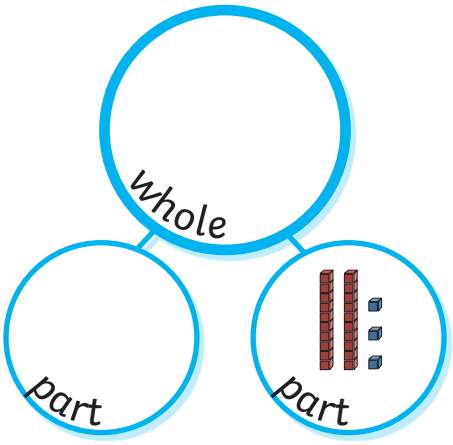
9) Do you agree? Explain why.

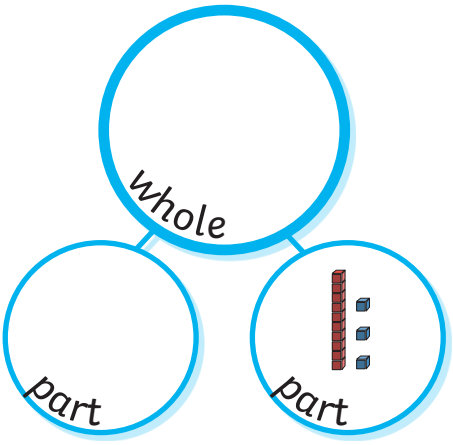
Rory

20 + 41 is the same as 50 + 11.

10) Kit has used 10 pieces of base ten to show different ways of partitioning a 2-digit number. 3 of the pieces are ones. Can you complete the part-whole models?



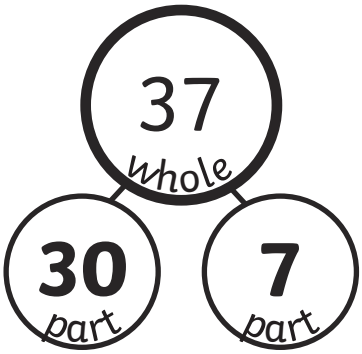




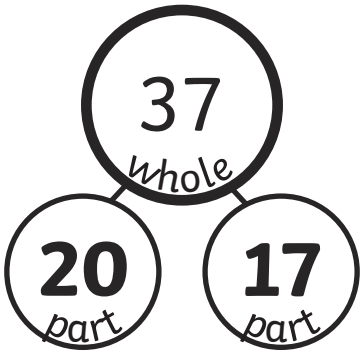
Partitioning 2-Digit Numbers in Different Ways

Answers

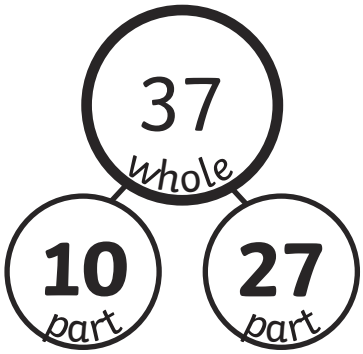
1) 37 has **3** tens and **7** ones.



37 = **30** + **7**

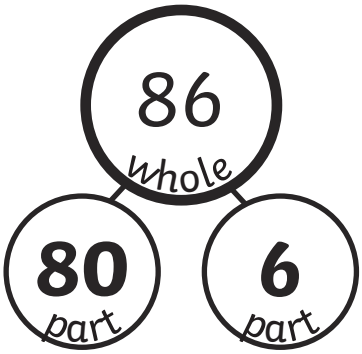


37 = **20** + **17**

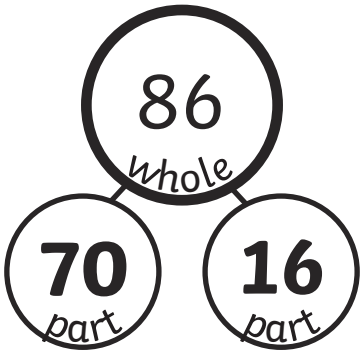


37 = **10** + **27**

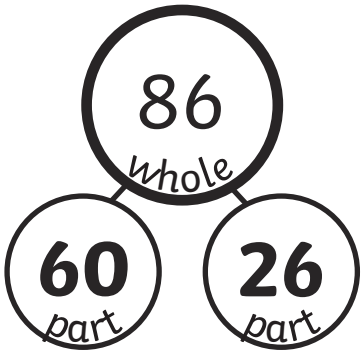
2) 86 has **8** tens and **6** ones.



86 = **80** + **6**

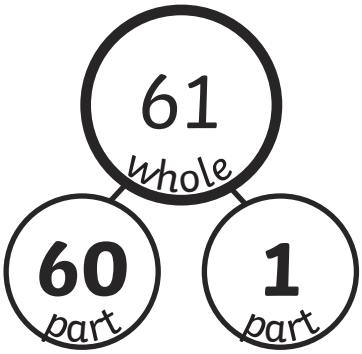


86 = **70** + **16**

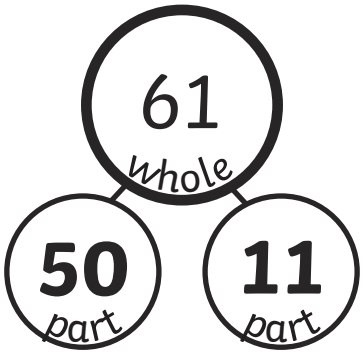


86 = **60** + **26**

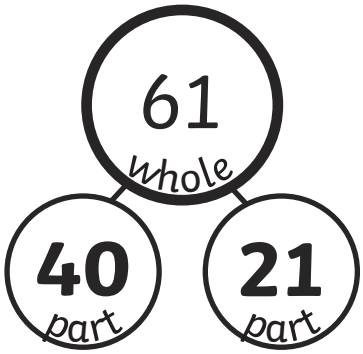
3) 45 has **6** tens and **1** ones.



61 = **60** + **1**



61 = **50** + **11**

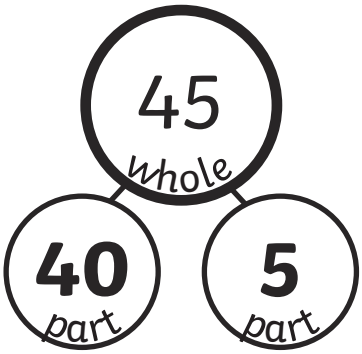


61 = **40** + **21**

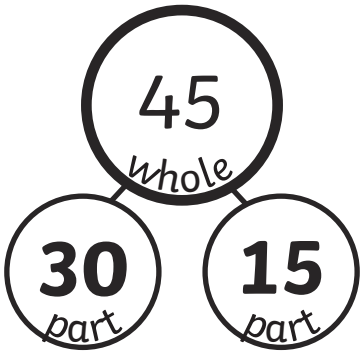
Partitioning 2-Digit Numbers in Different Ways

Answers

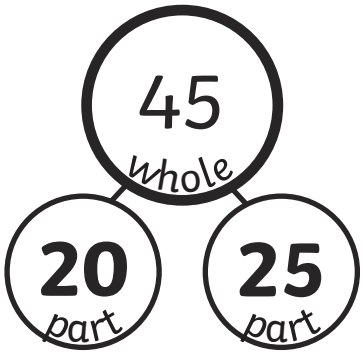
4) 45 has **4** tens and **5** ones.



45 = **40** + **5**

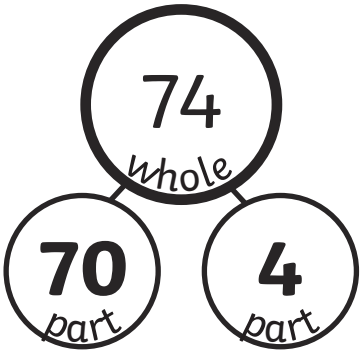


45 = **30** + **15**

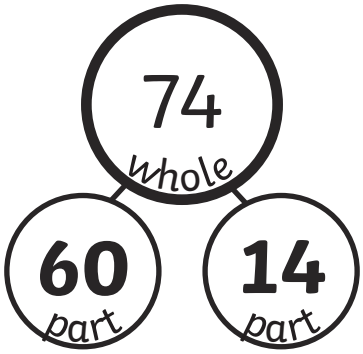


45 = **20** + **25**

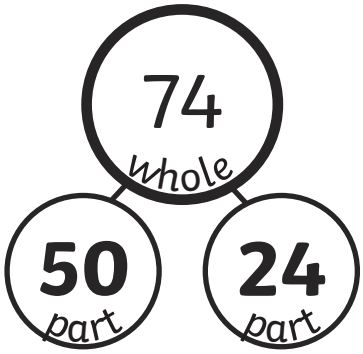
5) 74 has **7** tens and **4** ones.



74 = **70** + **4**

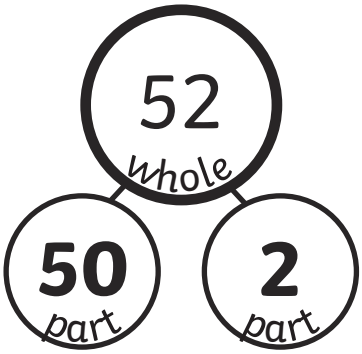


74 = **60** + **14**

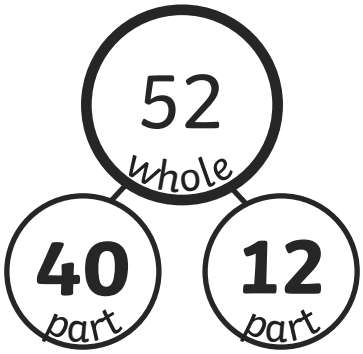


74 = **50** + **24**

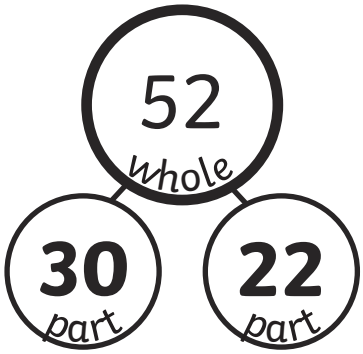
6) 52 has **5** tens and **2** ones.



52 = **50** + **2**



52 = **40** + **12**



52 = **30** + **22**

Partitioning 2-Digit Numbers in Different Ways

Answers

7) 46 has correctly been partitioned into 30 and 16. Instead of moving a ten to find a second way of partitioning 46, Rory has added an extra ten. The correct answer should show 20 and 26 as parts..

8) The statement is true. Both part-whole models have a total of 5 tens and 4 ones.

9) Children should agree. They could use equipment to prove that 6 tens and 1 one can be arranged to show 20 + 41 or 50 + 11. Both of these are ways of partitioning 61.

10)