

G4-M3-Lesson 19

- Makhai says that  $97 \div 3$  is 30 with a remainder of 7. He reasons this is correct because  $(3 \times 30) + 7 = 97$ . What mistake has Makhai made? Explain how he can correct his work.

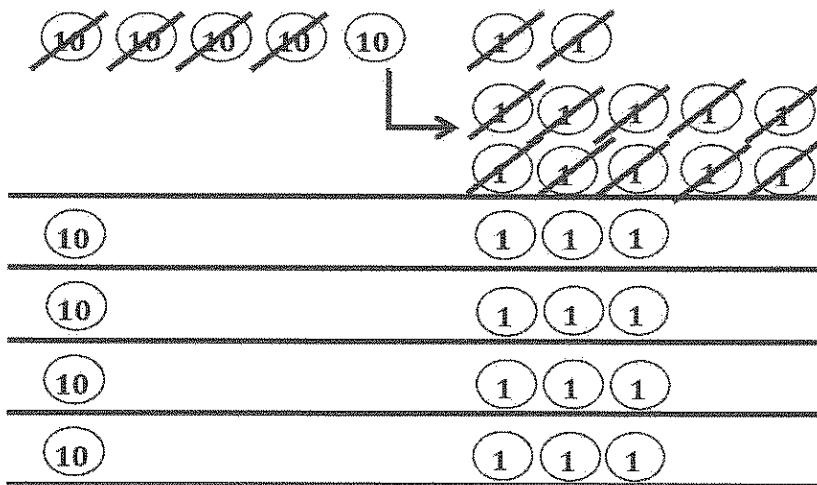
*Makhai stopped dividing when he had 7 ones, but he can distribute them into 3 more groups of 2. If he does so, he can make 3 groups of 32 instead of just 30.*

$$\begin{array}{r}
 32 \text{ R}1 \\
 3 \overline{) 97} \\
 \underline{- 9} \phantom{0} \\
 07 \\
 \underline{- 6} \\
 1
 \end{array}$$

There are not enough ones to distribute into 3 groups. I record 1 one as the remainder.

- Four friends evenly share 52 dollars.
  - They have 5 ten-dollar bills and 2 one-dollar bills. Draw a picture to show how the bills will be shared. Will they have to make change at any stage?

I unbundle a ten by drawing an arrow from the remaining 1 ten to 10 ones.



*Yes, they will have to make change for 1 ten-dollar bill. Before they can share it, they must exchange it for 10 one-dollar bills.*

1 ten 3 ones = 13

- Explain how they share the money evenly.  
*Each friend gets 1 ten-dollar bill and 3 one-dollar bills.*

3. Imagine you are writing a magazine article describing how to solve the problem  $43 \div 3$  to new fourth graders. Write a draft to explain how you can keep dividing after getting a remainder of 1 ten in the first step.

*Sample answer: This is how you divide 43 by 3. Think of it like 4 tens 3 ones divided into 3 groups. First, you want to distribute the tens. You can distribute 3 tens. Each group will have 1 ten. There will be 1 ten left over. That's okay. You can keep dividing. Just change 1 ten for 10 ones. Now you have 13 ones altogether. You can distribute 12 ones evenly. 3 groups of 4 ones is 12 ones. 1 one is remaining. So, your quotient is 14 R1. And that's how you divide 43 by 3.*

$$\begin{array}{r}
 14 \text{ R}1 \\
 3 \overline{) 43} \\
 \underline{- 3} \phantom{0} \\
 13 \\
 \underline{- 12} \\
 1
 \end{array}$$