

# Interpreting Remainders

**GOAL**

Decide how to deal with the remainder in a division problem.

Three students wrote problems that they could solve by calculating  $111 \div 6$ .

$$\begin{array}{r} 18 \\ 6 \overline{)111} \\ - 60 \\ \hline 51 \\ - 48 \\ \hline 3 \end{array}$$



**How does the problem help you decide what to do with the remainder?**

Matthew's Problem

111 students went for a ride on the Super Coaster. Each car holds 6 people. How many cars did they need?

Solution:  $111 \div 6 = 18 R3$   
 Answer: 19 cars

Lauren's Problem

A pizza restaurant served only 6-slice pizzas. At a party, 111 slices were eaten. How many pizzas were eaten?

Solution:  $111 \div 6 = 18 R3$   
 Answer: 18 and  $\frac{1}{2}$  pizzas

Desmond's Problem

Sara had 111 stickers to give to 6 friends. She wanted to give all of her friends the same number of stickers. How many stickers did each friend get?

Solution:  $111 \div 6 = 18 R3$   
 Answer: 18 stickers each

- Why do you think Matthew gave 19 as his answer?
- Why do you think Lauren represented the remainder as a fraction in her answer?
- Why do you think Desmond left the remainder out of his answer?

- D.** How did the problem help you decide what to do with the remainder?

## Reflecting

- E.** Describe situations in which you would deal with an answer in each of these ways:
- round the quotient up to the next whole number
  - write the remainder as a fraction or decimal
  - use the quotient and not the remainder
- Use examples to explain your thinking.

## Checking

- 1.** Chantal has 158 photos to arrange in an album. She wants to put 4 photos on each page.
- a)** How many pages will she need? Show your work.
- b)** Describe what you did with the remainder and explain why.

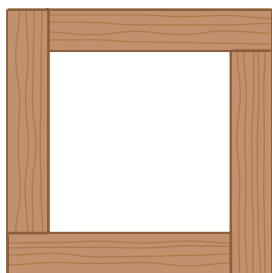


- 2.** Write a new problem about  $158 \div 4$ , in which you would do something different with the remainder than you did in Question 1. Explain what you would do differently.



## Practising

3.
  - a) 4 friends are sharing 125 marbles. How many marbles will each friend get if they share equally?
  - b) Describe what you did with the remainder and explain why.
4.
  - a) The rafts for the Scary Tunnel ride hold 4 people. If 202 children go on the ride at the same time, how many rafts are needed?
  - b) Describe what you did with the remainder and explain why.



5. Divide to solve each problem. Show your work, and explain what you did with the remainder.
  - a) Nadine uses 4 pieces of wood to make a picture frame. How many picture frames can she make with 518 pieces of wood?
  - b) Cupcakes come in packages of 6. Jesse needs 157 cupcakes. How many packages should he buy?
  - c) Lisa and 3 friends have earned \$225. They want to share the money equally. How much money will each person get?
6. Write a division problem in which you would use a fraction for the remainder.
7. Ian solved a problem by dividing 412 by 7. He said the answer is 59. What could the problem have been?
8. Write a problem about dividing 223 by 3. Solve your problem, and explain what you did with the remainder.