

Boost Free Lessons - Year 5 Maths

Lesson 9: Division with Remainders

Name: _____ Grade: _____ Date: _____

Worked Example 1

Work out $47 \div 5$.

$$\begin{array}{r} 9 \quad \text{r } 2 \\ 5 \overline{) 47} \end{array}$$

1. Find the largest multiple of 5 that fits into 47.
2. $5 \times 9 = 45$, and $5 \times 10 = 50$, which is too big.
3. So 5 goes into 47 nine times, and $47 - 45 = 2$ is left over.
4. The 2 is called the **remainder**.

$47 \div 5 = 9$ remainder 2

Worked Example 2

36 students travel in cars holding 5 each. How many cars are needed?

1. Divide first: $36 \div 5 = 7$ remainder 1.
2. Seven cars carry 35 students, and 1 student is left over.
3. That student still needs a car, so you cannot ignore the remainder.
4. Round **up** to 8 cars. Always ask what the remainder means in the question.

8 cars are needed

Remember: The **remainder** is what is left over. Always ask what it means in the question: sometimes you round up, sometimes you ignore it, and sometimes it becomes a fraction.



Question 1: Work out the following, giving each answer with a remainder.

1. $23 \div 4$

2. $37 \div 5$

3. $45 \div 6$

4. $59 \div 7$

5. $68 \div 8$

6. $77 \div 9$

7. $94 \div 4$

8. $125 \div 6$



Question 2: Answer the following.

1. Work out $238 \div 5$.
2. Work out $425 \div 7$.
3. Work out $519 \div 8$.
4. Write $23 \div 4$ with a fraction remainder.
5. Write $47 \div 6$ with a fraction remainder.
6. What is the largest possible remainder when dividing by 9?



Question 3: Answer the following questions.

1. 50 pencils are shared between 8 students. How many each, and how many left over?
2. A bus holds 45 people. 200 people need transport. How many buses are needed?
3. A ribbon 95 cm long is cut into 7 cm pieces. How many pieces, and how much is left?
4. A teacher has 100 books to pack in boxes of 12. How many full boxes, and how many books left?
5. Explain why the answer to question 2 is not 4 remainder 20.





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Answers: Division with Remainders**Question 1**

1. 5 r 3
2. 7 r 2
3. 7 r 3
4. 8 r 3
5. 8 r 4
6. 8 r 5
7. 23 r 2
8. 20 r 5

Question 2

1. 47 r 3
2. 60 r 5
3. 64 r 7
4. $5\frac{3}{4}$
5. $7\frac{5}{6}$
6. 8

Question 3

1. 6 each, 2 left over
2. 5 buses
3. 13 pieces, 4 cm left over
4. 8 full boxes, 4 books left
5. The 20 people left over still need transport, so an extra bus is needed. The remainder means you round up.

