Lesson 6-2 · Session 1

Dividing a Fraction by a Fraction

Name _____ Date _____ Period _____

Maryland Standard 6.NOS.1 · Learning target — I can divide a fraction by another fraction using the reciprocal.

Show a model, calculation, or explanation. Answer every part and label units when needed.

Exercises 1–12 earn 1 point for a correct response and 1 for supporting work. Spiral Review and Test Practice earn 1 point each.

Learn from a model

REMEMBER

- To divide fractions, multiply by the reciprocal (flip the second fraction, then multiply).
- 'Keep, Change, Flip': keep the first fraction, change divide to multiply, flip the second fraction.
- Watch out — keep, change, flip applies to the second fraction only.
- Check it — multiply the quotient by the divisor; you should get the dividend back.

WORKED EXAMPLE

Dividing a Fraction by a Fraction A pitcher holds 8/9 liter of lemonade. Each glass takes 2/9 liter. How many glasses can be filled?

Step 1 Write the division. 8/9 ÷ 2/9

Step 2 Keep, Change, Flip. Keep 8/9, change ÷ to ×, flip the divisor to 9/2

Step 3 Multiply across. 8/9 × 9/2 = 72/18

Step 4 Simplify. 72/18 = 4 glasses

Answer The pitcher fills 4 glasses that each hold 2/9 liter.

Practice

1. Find 2/3 divided by 1/6. _____

Answer _____

SHOW YOUR THINKING

2. Find 3/5 divided by 2/5. _____

Answer _____

SHOW YOUR THINKING

3. A recipe needs 3/4 cup of oats per serving. How many servings can you make with 9/4 cups of oats?

Answer _____

SHOW YOUR THINKING

4. Divide. Write each quotient in simplest form.

a. 1/2 ÷ 1/8 = _____
b. 5/6 ÷ 1/6 = _____
c. 3/4 ÷ 3/8 = _____
d. 6/7 ÷ 1/14 = _____
e. 9/10 ÷ 3/5 = _____

Answer _____

SHOW YOUR THINKING

5. Muffin Batter. A bowl holds 10/12 cup of batter. Each mini muffin uses 1/12 cup. How many mini muffins can be filled?

Answer _____

SHOW YOUR THINKING

6. Fence Panels. A can holds 2/3 gallon of stain. Each fence panel uses 1/9 gallon. How many panels can be stained?

Answer _____

SHOW YOUR THINKING

7. Keychain Cord. A spool holds 8/9 meter of cord. Each keychain uses 2/27 meter. Find how many keychains the spool makes, then explain why the quotient is greater than 1. Sentence Frame: "I know this because..."

Answer _____

EXPLAIN WITH MATHEMATICAL EVIDENCE

8. Kofi solved 3/8 ÷ 1/4 by flipping the first fraction. He wrote 8/3 × 1/4 = 8/12. Explain his mistake, then show the correct work.

Answer _____

EXPLAIN WITH MATHEMATICAL EVIDENCE

9. Find 5/8 ÷ 1/8.

Answer _____ quotient

SHOW YOUR THINKING

10. Find 4/5 ÷ 2/5.

Answer _____ quotient

SHOW YOUR THINKING

11. Filling Jars. A container holds 7/8 liter of sauce. Each jar takes 1/8 liter. How many jars can be filled?

Answer _____ jars

SHOW YOUR THINKING

12. Find the Mistake. Ana wrote 2/3 ÷ 1/6 = 2/18. Explain the mistake and give the correct quotient.

Answer _____ the mistake and the quotient

EXPLAIN WITH MATHEMATICAL EVIDENCE

Spiral review

13. From Lesson 6-1 Session 2. Find 4/5 ÷ 2.

Answer _____

SHOW YOUR THINKING

14. From Lesson 5-8 Session 1. A base of 16 m² plus four triangles of 20 m² gives what surface area?

Answer _____

SHOW YOUR THINKING

15. From Lesson 4-4 Session 1. Find 70% of 200.

Answer _____

SHOW YOUR THINKING

Test practice

16. Find 6/7 ÷ 2/7.

□ A. 4/7	□ B. 12/49
□ C. 3	□ D. 7/3

17. Find 1/2 ÷ 1/6.

□ A. 6	□ B. 1/12
□ C. 1/3	□ D. 3

18. Keep, change, flip changes division into —

- □ A. multiplication
- □ B. addition
- □ C. subtraction
- □ D. squaring

Check and revise

CHECK YOUR MATHEMATICS	HOW DID IT GO?
Multiply the quotient by the divisor to check the dividend. Every part answered / Work shown / Units labeled when needed	I can do this: Independently / With a hint / With help Question to revisit: _____

One correction or question I want to discuss: _____

Check one result with a model, an inverse operation, or substitution. Explain why the values agree.
Sentence Frame: "I know this because..."