Lesson 6-1 · Session 1

Dividing by a Unit Fraction

Name _____ Date _____ Period _____

Maryland Standard 6.NOS.1 · Learning target — I can divide a whole number by a unit fraction and explain what the quotient counts.
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

- Dividing by a unit fraction (like 1/3) means asking ‘how many of that fraction fit into the number?’
- Dividing by 1/n is the same as multiplying by n.
- Watch out — division by a fraction is not the same as division by a whole number; the answer grows.
- Check it — multiply your quotient by the divisor; you should get the original amount back.

WORKED EXAMPLE

Dividing a Whole Number by a Unit Fraction An 11-foot ribbon is cut into pieces that are each 1/6 foot long. How many pieces are there?

Step 1 Write the whole number over 1. 11 ÷ 1/6 = 11/1 ÷ 1/6

Step 2 Keep, Change, Flip. Keep 11/1, change ÷ to ×, flip the divisor: 6/1

Step 3 Multiply across. 11/1 × 6/1 = 66/1

Step 4 Simplify. 66/1 = 66 pieces

Answer The ribbon makes 66 pieces that are each 1/6 foot long.

Practice

1. Find 4 divided by 1/2. Think: how many halves fit into 4? _____

Answer _____

SHOW YOUR THINKING

2. Find 6 divided by 1/3. _____

Answer _____

SHOW YOUR THINKING

3. Draw a picture (number line or fraction bars) to show 3 divided by 1/4.

Number line in fourths. Mark the jumps of 1/4 from 0 to 3 and count them.



Answer _____

SHOW YOUR THINKING

4. Divide. Write each quotient on the blank.

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

Answer _____

SHOW YOUR THINKING

5. Corn Bread. A kitchen has 9 cups of batter. Each mini loaf uses 1/3 cup. How many mini loaves can be made?

Answer _____

SHOW YOUR THINKING

6. Kite Tails. A spool holds 5 yards of string. Each kite tail uses 1/8 yard. How many kite tails can be made?

Answer _____

SHOW YOUR THINKING

7. Floor Tape. A gym teacher has 6 feet of floor tape and cuts it into marks that are each 1/12 foot long. She uses 30 of the marks. Find how many marks she cuts, then how many are left.

Answer _____

SHOW YOUR THINKING

8. Find 6 ÷ 1/5. Then explain in one full sentence why the quotient is greater than 6.

Answer _____

EXPLAIN WITH MATHEMATICAL EVIDENCE

9. Find 10 ÷ 1/5.

Answer _____ quotient

SHOW YOUR THINKING

10. Find 6 ÷ 1/8.

Answer _____ quotient

SHOW YOUR THINKING

11. Snack Bags. A bag holds 9 cups of trail mix. Each snack bag takes 1/3 cup. How many snack bags can be filled?

Answer _____ bags

SHOW YOUR THINKING

12. Find the Mistake. Kim wrote 12 ÷ 1/4 = 3. Explain the mistake and give the correct quotient.

Answer _____ the mistake and the quotient

EXPLAIN WITH MATHEMATICAL EVIDENCE

Spiral review

13. From Lesson 5-7 Session 1. A cube has edges of 4 m. Find its surface area.

Answer _____

SHOW YOUR THINKING

14. From Lesson 4-5 Session 1. If 20 is 25% of a number, find the number.

Answer _____

SHOW YOUR THINKING

15. From Lesson 3-6 Session 1. Convert 5 feet to inches.

Answer _____

SHOW YOUR THINKING

Test practice

16. Find 7 ÷ 1/3.

□ A. 10	□ B. 2.33
□ C. 7	□ D. 21

17. Find 4 ÷ 1/9.

□ A. 36	□ B. 0.44
□ C. 13	□ D. 4

18. “How many halves are in 5?” is written as —

□ A. 5 × 1/2	□ B. 5 ÷ 1/2
□ C. 1/2 ÷ 5	□ D. 5 + 1/2

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..."