LESSON MAKER PRO

Fraction Power Moves

Multiply and divide fractions and mixed numbers.

GRADE 6 · 6.CE.1

6.CE.1 "The student will estimate, demonstrate, solve, and justify solutions to problems using operations with fractions and mixed numbers, including those in context..."

NAME _____ DATE _____

MULTIPLY AND DIVIDE

To multiply fractions, multiply the numerators and multiply the denominators, then simplify. To divide by a fraction, multiply by its reciprocal, or flipped fraction. Multiplying by a number between 0 and 1 makes a positive amount smaller, while dividing by a number between 0 and 1 makes it larger.

WORKED EXAMPLE

$2\ 1/11 \div 3/8$

1. Change 2 1/11 to 23/11.
2. Keep 23/11, change ÷ to ×, and flip 3/8 to 8/3.
3. Multiply: (23 × 8)/(11 × 3) = 184/33.
4. Write 184/33 as 5 19/33.

Answer: 5 19/33

PRACTICE 6 problems

1 5/6 × 7/10

ANSWER _____

2 7/12 ÷ 5/9

ANSWER _____

3 4 5/6 × 6/7

ANSWER _____

4 6 2/9 ÷ 7/12

ANSWER _____

5 11/12 ÷ 11/6

ANSWER _____

6 3/5 × 1 1/2

ANSWER _____

APPLY IT Show your work

1 At a gaming club, Jordan records 4 1/2 minutes of video. He uses 2/3 of the video for a highlight reel, then splits that reel into 3 equal clips. How long is each clip? Estimate before you solve.

WORK SPACE

ANSWER _____

2 During a school soccer event, 5 1/4 gallons of water are poured equally into bottles that each hold 3/4 gallon. How many full bottles can be filled? Estimate before you solve.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Use exactly two sentences to compare 7/8 × 2/3 and 7/8 ÷ 2/3. Give both answers and explain why one result is below 7/8 and the other is above 7/8.

_____

_____

ANSWER KEY

Fraction Power Moves

GRADE 6 · 6.CE.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	5/6 × 7/10	**7/12**
2	7/12 ÷ 5/9	**1 1/20**
3	4 5/6 × 6/7	**4 1/7**
4	6 2/9 ÷ 7/12	**10 2/3**
5	11/12 ÷ 11/6	**1/2**
6	3/5 × 1 1/2	**9/10**

PART 2 · APPLY IT

1. **1 minute** 4 1/2 × 2/3 = 3 minutes for the highlight reel. Then 3 ÷ 3 = 1 minute per clip.
2. **7 bottles** 5 1/4 ÷ 3/4 = 21/4 × 4/3 = 7. Seven full bottles can be filled.

CHALLENGE

7/8 × 2/3 = 7/12, which is less than 7/8 because multiplying by a fraction less than 1 makes the amount smaller. 7/8 ÷ 2/3 = 1 5/16, which is greater than 7/8 because dividing by a fraction less than 1 makes the amount larger.

Accept equivalent fraction work, but require final answers in simplest form. Accept reasonable benchmark estimates for the word problems, such as about 1 minute and about 7 bottles.