LESSON MAKER PRO

Rational Number Moves

Multiply and divide positive and negative fractions.

GRADE 7 · 7.NS.A.2

CCSS.Math.Content.7.NS.A.2 "Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers."

NAME _____ DATE _____

MULTIPLY, THEN FLIP

When you multiply rational numbers, multiply the numerators and denominators, then use the signs to determine whether the product is positive or negative. To divide by a nonzero rational number, multiply by its reciprocal, then simplify the result.

WORKED EXAMPLE

(-4/9) x (6/11)

1. A negative times a positive is negative.
2. Multiply the numerators: 4 x 6 = 24.
3. Multiply the denominators: 9 x 11 = 99.
4. Simplify -24/99 to -8/33.

Answer: -8/33

PRACTICE 6 problems

1 (-2/3) x (5/7)

ANSWER _____

2 3/8 ÷ (-2/5)

ANSWER _____

3 (-7/10) x (-3/13)

ANSWER _____

4 (-10/13) ÷ (2/3)

ANSWER _____

5 1 1/2 x (-2/5)

ANSWER _____

6 (-5/16) ÷ (-2/3)

ANSWER _____

APPLY IT Show your work

1 A skateboarder drops 3/10 meter in elevation on each of 7 ramp sections. What is the total change in elevation?

WORK SPACE

ANSWER _____

2 A music app uses 7/15 gigabyte of data each hour. You have 2 1/3 gigabytes of data available. How many hours can you use the app at this rate?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Evaluate: (-2/3) ÷ (5/7) x (-3/8)

WORK SPACE AND ANSWER

ANSWER KEY

Rational Number Moves

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	(-2/3) x (5/7)	**-10/21**
2	3/8 ÷ (-2/5)	**-15/16**
3	(-7/10) x (-3/13)	**21/130**
4	(-10/13) ÷ (2/3)	**-15/13**
5	1 1/2 x (-2/5)	**-3/5**
6	(-5/16) ÷ (-2/3)	**15/32**

PART 2 · APPLY IT

1. **-2 1/10 meters** Represent each drop as -3/10. Multiply 7 x (-3/10) = -21/10 = -2 1/10.
2. **5 hours** Divide the available data by the hourly rate: 2 1/3 ÷ 7/15 = 7/3 x 15/7 = 5.

CHALLENGE

7/20

Accept equivalent fractions and equivalent mixed-number or improper-fraction forms when the value and sign are correct. Division work should show multiplication by the reciprocal of a nonzero divisor.