LESSON MAKER PRO

Rational Number Moves

Use multiplication to model signed changes and fractional amounts.

GRADE 7 · 7.NR.1.6

7.NR.1.6 "Make sense of multiplication of rational numbers using realistic applications."

NAME _____ DATE _____

MULTIPLY WITH MEANING

Multiply the numerators and denominators, then simplify the fraction. A product with one negative factor is negative, and a product with two negative factors is positive.

WORKED EXAMPLE

Find (-7/8) * (12/35).

1. Start with (-7/8) * (12/35).
2. Cancel 7 with 35 to get 1 and 5.
3. Cancel 12 with 8 to get 3 and 2.
4. Multiply: -(1 * 3)/(2 * 5) = -3/10.

Answer: -3/10

PRACTICE 6 problems

1 (-4/9) * (-3/11)

ANSWER _____

2 (5/6) * (-18/25)

ANSWER _____

3 (-2 1/4) * (4/21)

ANSWER _____

4 0.6 * (-1.5)

ANSWER _____

5 (-13/14) * (-28/39)

ANSWER _____

6 (-3.2) * (-0.25)

ANSWER _____

APPLY IT Show your work

1 During an online game, a power-down changes a character's speed by -2/5 of its 50 points per second. What is the change in speed?

WORK SPACE

ANSWER _____

2 During a 6-hour outdoor concert, the temperature changes by -1.25°C each hour. What is the total change in temperature?

WORK SPACE

ANSWER _____

CHALLENGE One step up

An esports character starts with 24 energy points. A trap removes 3/4 of 2/3 of the character's energy. Write a multiplication expression for the change, then find the change in energy.

WORK SPACE AND ANSWER

ANSWER KEY # Rational Number Moves

GRADE 7 · 7.NR.1.6

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	(-4/9) * (-3/11)	**4/33**
2	(5/6) * (-18/25)	**-3/5**
3	(-2 1/4) * (4/21)	**-3/7**
4	0.6 * (-1.5)	**-0.9**
5	(-13/14) * (-28/39)	**2/3**
6	(-3.2) * (-0.25)	**0.8**

PART 2 · APPLY IT

1. **-20 points per second** Multiply (-2/5) * 50 = -20. The negative sign means the character's speed decreases by 20 points per second.
2. **-7.5°C** Multiply 6 * (-1.25) = -7.5. The temperature decreases by 7.5°C overall.

CHALLENGE

(-3/4) * (2/3) * 24 = -12 energy points

Accept equivalent fractions for fraction products. For decimal products and application answers, accept equivalent fractions when the value, sign, and units are correct.