LESSON MAKER PRO

Signed Number Moves

Multiply and divide using signs and number lines.

GRADE 7 · 7.NOS.A.2

7.NOS.A.2 "Multiply and divide rational numbers using multiple strategies and representations. Model multiplication of rational numbers using number lines, arrays, or area models to show how properties of operations (e.g...."

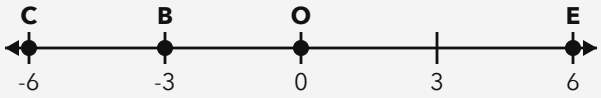
NAME _____ DATE _____

OPPOSITES AND PRODUCTS

To multiply by a negative number, find the product with its positive opposite, then take the opposite of that result. On a number line, opposite numbers are the same distance from 0 on different sides. For division, find the number that multiplies by the divisor to give the dividend.

WORKED EXAMPLE

B and C mark two equal left moves from O. E is opposite C. Use the line to find (-2) × (-3).



1. Two left moves give 2 × (-3) = -6 at C.
2. E is opposite C, so E is 6.

Answer: (-2) × (-3) = 6

PRACTICE 4 problems

1 Find (-5) × (3/4).

ANSWER _____

2 Find (7/8) ÷ (-1/4).

ANSWER _____

3 Find (-2/5) × (-15/4).

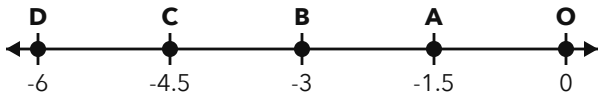
ANSWER _____

4 Find (-9/10) ÷ (3/5).

ANSWER _____

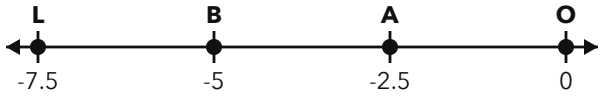
APPLY IT Show your work

1 A game score starts at O and drops by the same amount each round. A shows the score after one round. What is the score after four rounds?



ANSWER _____

2 The line shows a club's balance change in dollars, from O to L, after three equal snack purchases. What change came from each purchase?



ANSWER _____

CHALLENGE One step up

Find (-7/12) × 24 + (-7/12) × (-12) without calculating each product separately. Name the property you used.

WORK SPACE AND ANSWER

ANSWER KEY

Signed Number Moves

GRADE 7 · 7.NOS.A.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find (-5) × (3/4).	**-15/4**
2	Find (7/8) ÷ (-1/4).	**-7/2**
3	Find (-2/5) × (-15/4).	**3/2**
4	Find (-9/10) ÷ (3/5).	**-3/2**

PART 2 · APPLY IT

1. **-6 points** One round changes the score by -1.5 points. Four rounds change it by 4 × (-1.5) = -6 points.
2. **-$2.50** The total balance change is -$7.50. Divide by three equal purchases: -7.5 ÷ 3 = -2.5.

CHALLENGE

-7, using the distributive property: (-7/12) × (24 + (-12)) = (-7/12) × 12 = -7.

Accept equivalent fractions or decimals for practice answers. For the challenge, accept a correct explanation of factoring out -7/12.