LESSON MAKER PRO

Signed Number Moves

Calculate with positive and negative fractions and decimals.

GRADE 7 · 7A.NS.A

7A.NS.A "Apply and extend prior knowledge of addition, subtraction, multiplication, and division to operations with rational numbers."

NAME _____ DATE _____

KEEP TRACK OF SIGNS

To add or subtract fractions, use a common denominator. Subtracting a number is the same as adding its opposite. When multiplying or dividing, matching signs give a positive result and different signs give a negative result. To divide by a nonzero fraction, multiply by its reciprocal.

WORKED EXAMPLE

Evaluate (-7/12 + 1/6) ÷ (-5/3).

1. -7/12 + 1/6 = -7/12 + 2/12
2. -7/12 + 2/12 = -5/12
3. (-5/12) ÷ (-5/3) = (-5/12) × (-3/5)
4. (-5/12) × (-3/5) = 15/60 = 1/4

Answer: 1/4

PRACTICE 6 problems

1 Evaluate -3/4 + 5/8.

ANSWER _____

2 Evaluate -2.5 - (-1.75).

ANSWER _____

3 Evaluate (-4/9) × (3/8).

ANSWER _____

4 Evaluate (-5/6) ÷ (10/9).

ANSWER _____

5 Evaluate 11/15 - 2/5.

ANSWER _____

6 Evaluate (-1.2) × (-0.5) + (-0.4).

ANSWER _____

APPLY IT Show your work

1 At 8 a.m., the temperature is -2.5°C. It rises 1.75°C each hour for 4 hours. What is the temperature at noon?

WORK SPACE

ANSWER _____

2 In a game, your score changes by -1.5 points for each of 4 missed targets. You then earn a 2.25-point bonus. What is the total change in your score?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Evaluate [(-4/5) - 1/10] ÷ (-3/2) + (-1/4). Show how you handle the negative divisor.

WORK SPACE AND ANSWER

ANSWER KEY # Signed Number Moves

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Evaluate -3/4 + 5/8.	**-1/8**
2	Evaluate -2.5 - (-1.75).	**-0.75**
3	Evaluate (-4/9) × (3/8).	**-1/6**
4	Evaluate (-5/6) ÷ (10/9).	**-3/4**
5	Evaluate 11/15 - 2/5.	**1/3**
6	Evaluate (-1.2) × (-0.5) + (-0.4).	**0.2**

PART 2 · APPLY IT

1. **4.5°C** The temperature rises 4 × 1.75 = 7°C. Add the rise to the starting temperature: -2.5 + 7 = 4.5°C.
2. **-3.75 points** The missed targets change the score by 4 × (-1.5) = -6 points. Add the bonus: -6 + 2.25 = -3.75 points.

CHALLENGE

(-4/5) - 1/10 = -9/10. Dividing by -3/2 means multiplying by -2/3, so (-9/10) × (-2/3) = 3/5. Then 3/5 + (-1/4) = 7/20.

Accept equivalent fractions and decimals for numerical answers. For the challenge, look for multiplication by -2/3 and a positive quotient.