LESSON MAKER PRO

Smart Number Moves

Group, combine, and convert rational numbers.

GRADE 7 · 7.NOS.A.3.a

7.NOS.A.3.a "Apply properties of operations to efficiently compute with rational numbers and convert between forms when appropriate to support problem solving."

NAME _____ DATE _____

COMPUTE EFFICIENTLY

Reorder and group numbers to make the calculation easier. Opposites add to zero, and the distributive property lets you combine terms with the same factor. Change between decimals and fractions when one form is easier to use.

WORKED EXAMPLE

Find the value of -5/6 + 0.4 + 5/6.

1. Reorder and group: (-5/6 + 5/6) + 0.4
2. Add the opposites: 0 + 0.4
3. Compute: 0.4

Answer: 0.4

PRACTICE 6 problems

1 Find the value of -3/4 + 1.6 + 3/4.

ANSWER _____

2 Find the value of 2.5 + (-0.75) + (-1.5).

ANSWER _____

3 Find the value of (-7/8) × 16 + (3/8) × 16.

ANSWER _____

4 Find the value of 0.6 × (-3/5) + 0.6 × 8/5. Write your answer as a fraction in simplest form.

ANSWER _____

5 Find the value of (-2/3) × 9/10 × (-3/2).

ANSWER _____

6 Find the value of 1.75 - 3/8 - 5/8.

ANSWER _____

APPLY IT Show your work

1 In a game, Maya's score changes by +2.75 points, -1 1/2 points, +0.25 points, and -1/2 point. What is the total change in her score? Show how you grouped the numbers.

WORK SPACE

ANSWER _____

2 A club makes 6 friendship bracelets. Each bracelet uses 3/4 meter of blue cord and 1/6 meter of silver cord. How many meters of cord does the club use in all? Show a calculation using the distributive property.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find the value of 1.2 × (-7/3) + 1.2 × 1/3 + 1.2 × 5/2. Explain how you can find it without calculating all three products separately.

WORK SPACE AND ANSWER

ANSWER KEY # Smart Number Moves

GRADE 7 · 7.NOS.A.3.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the value of -3/4 + 1.6 + 3/4.	**1.6**
2	Find the value of 2.5 + (-0.75) + (-1.5).	**0.25**
3	Find the value of (-7/8) × 16 + (3/8) × 16.	**-8**
4	Find the value of 0.6 × (-3/5) + 0.6 × 8/5. Write your answer as a fraction in simplest form.	**3/5**
5	Find the value of (-2/3) × 9/10 × (-3/2).	**9/10**
6	Find the value of 1.75 - 3/8 - 5/8.	**0.75**

PART 2 · APPLY IT

1. **+1 point** Group the gains to get 3 points and the losses to get -2 points. Their sum is +1 point.
2. **5 1/2 meters** Use 6 × (3/4 + 1/6) = 6 × 3/4 + 6 × 1/6. This is 4 1/2 + 1 = 5 1/2 meters.

CHALLENGE

0.6. Use the distributive property to write 1.2 × (-7/3 + 1/3 + 5/2). The numbers in parentheses add to 1/2, and 1.2 × 1/2 = 0.6.

Accept equivalent exact forms unless a problem specifies a form. For the word problems and challenge, accept other correct calculations that show efficient grouping or use of a property.