

Properties of Real Numbers Guided Notes

1. Name sets of numbers to which each number belongs:

$$a. \frac{1}{2}$$

$$b. \sqrt{7}$$

$$c. \pi$$

$$d. -5$$

a. rational numbers b. real number c. real numbers d. integers

2. Explain the associative property of addition. Write an example to demonstrate it.

The associative property of addition says that it doesn't matter how we group the added numbers (i.e. which we calculate first)

$$(a + b) + c = a + (b + c)$$

3. What is meant by Multiplicative Identity Property?

Multiplying a real number by 1 leaves the real number unchanged.

$$a \times 1 = a$$

4. Can we apply associative property on division?

No, because division isn't associative. Addition and multiplication are associative.

Properties of Real Numbers Guided Notes

PROBLEM 1:

Take each example, and first decide if the left and right sides of the equal signs are equivalent. That would mean the equals sign makes the statement true. Then, decide if the commutative property was used in the example.

Example	Are the sides equivalent?	Does it use the Commutative Property?
$2 + 4 = 4 + 2$	YES	YES
$2 \times 5 = 5 \times 2$	YES	YES
$4 - 2 = 2 - 4$	NO	NO
$2 \div 6 = 6 \div 2$	NO	YES
$2 \times \frac{1}{4} = \frac{1}{4} \times 2$	YES	YES

PROBLEM 2:

Take each example and first decide if the left and right sides of the equal signs are equivalent. That would mean the equals sign makes the statement true. Then, decide if the associative property was used in the example.

Example	Are the sides equivalent?	Does it use the associative Property?
$(2 + 3) - 7 = 2 + (3 - 7)$	YES	YES
$3(2 \times 5) = (3 \times 2) \times 5$	YES	YES
$6 - (7 - 2) = (6 - 7) - 2$	NO	NO
$10 + [4 + (2 + 5)] = [10 + (4 + 2)] + 5$	YES	YES
$2[4(5 \times 3)] = [2(4 \times 5)] \times 3$	YES	YES

Properties of Real Numbers Guided Notes

PROBLEM 3:

Take each example and first decide if the left and right sides of the equal signs are equivalent. That would mean the equals sign makes the statement true. Then, decide if the distributive property was used in the example.

Example	Are the sides equivalent?	Does it use the distributive Property?
$2 \times (3 + 5) = 2 \times 3 + 2 \times 5$	YES	YES
$4 + (2 + 6) = (4 + 2) + 6$	YES	NO
$7 \times [2 \times (4+5)] = 2 \times [7 \times 4 + 7 \times 5]$	YES	YES