



# Pre-Algebra Workbook

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Numbers and negative numbers

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MATH

## NUMBER SETS

- 1. The number 0 is included in all the number sets except \_\_\_\_\_ numbers.
- 2. Positive and negative whole numbers are called \_\_\_\_\_.
- 3. Fractions and decimals can be considered \_\_\_\_\_ numbers.
- 4. The number set  $\{2,4,6,8\}$  shows a set of \_\_\_\_\_ numbers.
- 5. What is the real number that's halfway between 1 and 2?
- 6. The number sets that include negative numbers are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ numbers.



## IDENTITY NUMBERS

- 1. Find the sum.

$$4 + 0 =$$

- 2. Find the product.

$$15 \cdot 1$$

- 3. The identity number for addition is 0 because when we add 0 to a number the value does \_\_\_\_\_ change.

- 4. The \_\_\_\_\_ number for multiplication is 1 because when we multiply a number by 1, the value does not change.

- 5. Given the problem  $10 + 0 = 10$ , the 0 is the identity number for \_\_\_\_\_.

- 6. Given the problem  $20 \cdot 1 = 20$ , the 1 is the identity number for \_\_\_\_\_.



## OPPOSITE OF A NUMBER

- 1. What is the opposite of  $-15$ ?
  
  
  
  
  
- 2. What is the opposite of  $2/3$ ?
  
  
  
  
  
- 3. Opposites are numbers that are equal distance from \_\_\_\_\_.
  
  
  
  
  
- 4. What is the only number that is its own opposite?
  
  
  
  
  
- 5. When looking at a number line, the negative numbers are to the \_\_\_\_\_ of 0 and the positive numbers are to the \_\_\_\_\_ of 0.
  
  
  
  
  
- 6. We know 5 and  $-5$  are opposite numbers because they are both \_\_\_\_\_ units away from 0.



## ABSOLUTE VALUE

- 1. Simplify the expression.

$$|-4|$$

- 2. Simplify the expression.

$$|75|$$

- 3. Write the numbers from least to greatest.

$$|-4|, |1|, |0|, |-8|, |9|$$

- 4. Write the values from greatest to least.

$$|7|, |-3|, |0|, |-9|, |5|$$

- 5. Absolute values make positive numbers \_\_\_\_\_ and negative numbers \_\_\_\_\_.

- 6. Simplify the expression.



$| - 3 |$

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## ADDING AND SUBTRACTING SIGNED NUMBERS

- 1. Simplify the expression.

$$-4 + 2$$

- 2. Simplify the expression.

$$-11 - 8$$

- 3. When we add two negative numbers, we'll always get a \_\_\_\_\_ number.

- 4. Simplify the expression.

$$-19 - 26$$

- 5. Simplify the expression.

$$5 - 8$$

- 6. Simplify the expression.



$$3 - (-6)$$





## MULTIPLYING SIGNED NUMBERS

■ 1. Multiplying two negative numbers will always result in a \_\_\_\_\_ number.

■ 2. Multiplying a negative and a positive number will always result in a \_\_\_\_\_ number.

■ 3. Multiplying two positive numbers will always result in a \_\_\_\_\_ number.

■ 4. Simplify the expression.

$$12 \cdot -5$$

■ 5. Simplify the expression.

$$-8 \cdot -6$$

■ 6. Simplify the expression.

$$25 \cdot 3$$



## DIVIDING SIGNED NUMBERS

■ 1. Dividing a negative number by a negative number will always result in a \_\_\_\_\_ number.

■ 2. Dividing a positive number by a negative number will always result in a \_\_\_\_\_ number.

■ 3. Simplify the expression.

$$-12 \div 2$$

■ 4. Simplify the expression.

$$0 \div -8$$

■ 5. Simplify the expression.

$$24 \div -6$$

■ 6. Simplify the expression.



$$-144 \div -12$$



## ABSOLUTE VALUE OF AN EXPRESSION

- 1. Simplify the expression.

$$|-6| + |-5 \cdot 2|$$

- 2. Simplify the expression.

$$|-6| - |7|$$

- 3. Simplify the expression.

$$|-5 \cdot 4|$$

- 4. Simplify the expression.

$$|-5 \cdot -4 \cdot 2|$$

- 5. Simplify the expression.

$$|-11 + 3| \cdot |-9|$$

- 6. Simplify the expression.



$$|-8-2| \cdot |-4-3|$$



