

Introduction to Integers

Read the following introduction to integers and answer the questions that follow:

Integers are whole numbers, either positive, negative, or zero, without a fractional part. Absolute value refers to the distance of a number from zero on the number line, always resulting in a non-negative value. Understanding these concepts is crucial for more advanced mathematical operations and real-world applications.

What are Integers?

Read the following description of integers and answer the questions that follow:

Integers include all whole numbers, both positive and negative, including zero. For example, ..., -3, -2, -1, 0, 1, 2, 3, ...

1. What is an example of a positive integer?

2. What is an example of a negative integer?

3. What is the significance of zero in the set of integers?

What is Absolute Value?

Read the following description of absolute value and answer the questions that follow:

The absolute value of a number is its distance from zero on the number line. It is always non-negative. For example, the absolute value of -5 is 5, and the absolute value of 5 is also 5.

1. What is the absolute value of the number -3?

2. What is the absolute value of the number 0?

3. How does the absolute value of a number relate to its distance from zero?

Multiple Choice Questions

Choose the correct answer for each question:

1. What is the absolute value of the number -3?

- A) -3
- B) 3
- C) 0
- D) 1

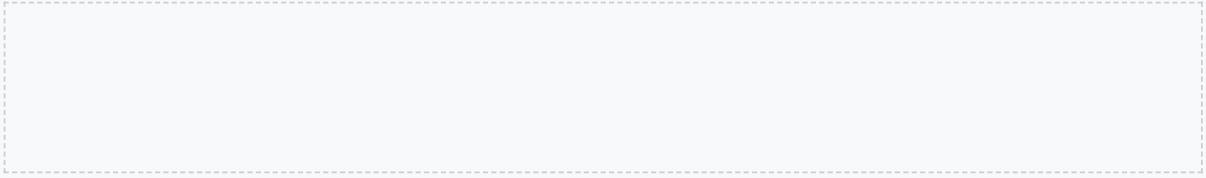
2. If $x = -2$, what is the value of $|x|$? Page

- A) -2
- B) 2
- C) 0
- D) 1

3. What is the result of subtracting a negative integer from a positive integer?

- A) Always negative
- B) Always positive
- C) Depends on the absolute values of the integers

- D) Always zero



Short Answer Questions

Answer each question in complete sentences:

1. Provide an example of a real-life scenario where integers are used.

2. Explain the difference between the absolute value of a number and the number itself. Provide an example.

3. Solve for x in the equation $|x| + 1 = 6$.

Fill-in-the-Blank Questions

Fill in the blanks with the correct answers:

1. The set of integers includes all whole numbers, both _____ and negative, including zero.
2. When adding two integers with the same sign, we _____ their absolute values and keep the same sign.
3. In real-life scenarios, understanding integers and their operations is crucial for _____ and financial planning.

Activity 1: Number Line

Draw a number line and mark the following integers: -5, -2, 0, 3, 6. Then, determine the absolute value of each integer.

[Space for number line]

Activity 2: Real-Life Scenarios

Think of three real-life scenarios where integers are used. Write a short description of each scenario and explain how integers are applied in each case.

1.

2.

3.

Activity 3: Equation Solving

Solve the following equations involving absolute values:

1. $|x| = 4$

2. $|x| + 2 = 9$

3. $|x| - 3 = 2$

Conclusion

Summarize what you have learned about integers and absolute values:

Assessment

Use the following marking guide to assess your work:

Multiple Choice Questions: 1 point each

Short Answer Questions: 5 points each, based on accuracy and completeness of the answer

Fill-in-the-Blank Questions: 1 point each for correct completion

Activities: 10 points each, based on completeness and accuracy

Rubric for Short Answer Questions

Use the following rubric to assess short answer questions:

Accuracy (3 points): Is the answer correct?

Completeness (1 point): Does the answer fully address the question?

Example/Explanation (1 point): Is a relevant example or explanation provided?

Additional Resources

For students who need extra support or challenge, consider providing additional resources such as:

- Graphic organizers for short answer questions
- Bilingual resources or a dictionary for English language learners
- Additional challenging questions for gifted students
- Online platforms for practice and review

Reflection and Feedback

Reflect on your learning and provide feedback:

