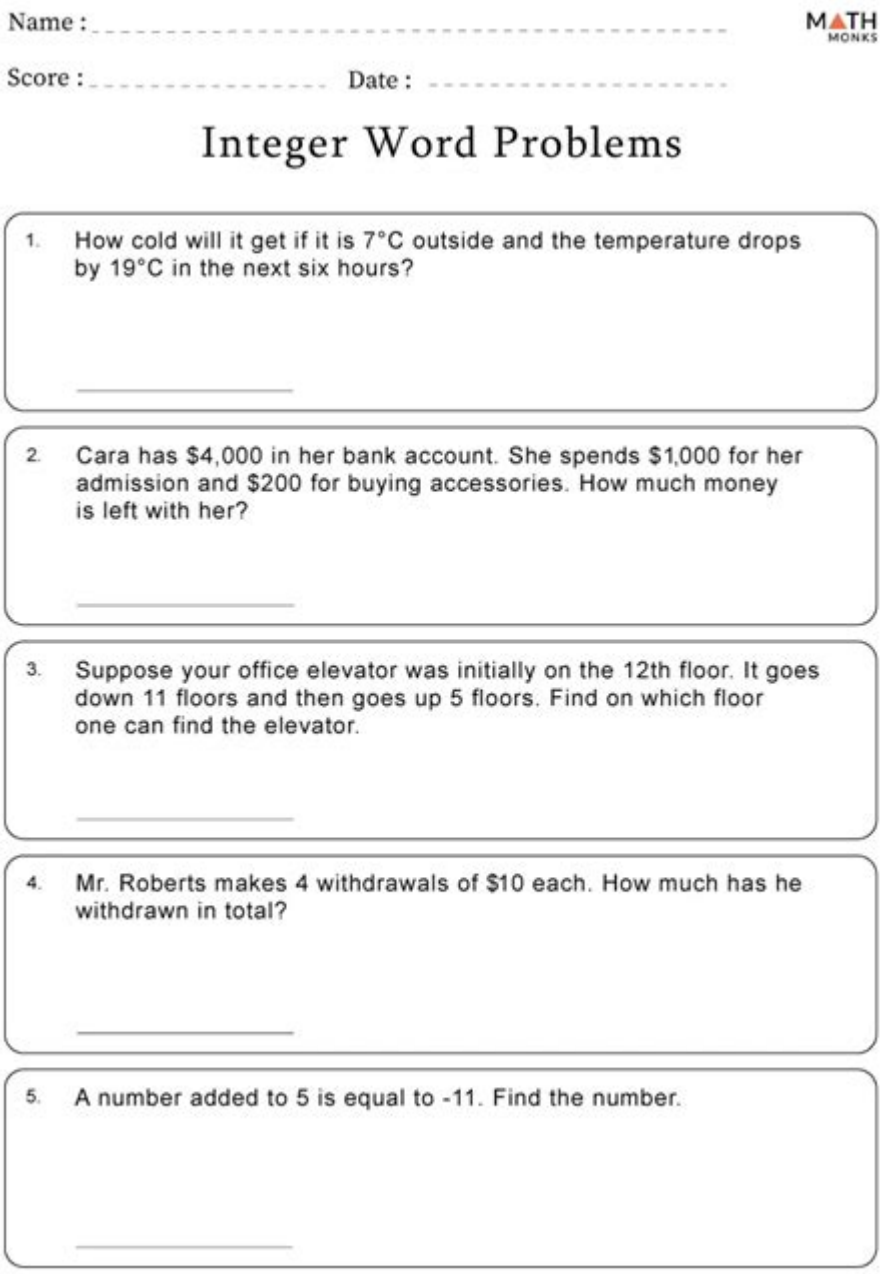
Integer Word Problems Worksheet Grade 7



Name : _____ MATH MONKS

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Integer Word Problems

1. How cold will it get if it is 7°C outside and the temperature drops by 19°C in the next six hours?

_____

2. Cara has $4,000 in her bank account. She spends $1,000 for her admission and $200 for buying accessories. How much money is left with her?

_____

3. Suppose your office elevator was initially on the 12th floor. It goes down 11 floors and then goes up 5 floors. Find on which floor one can find the elevator.

_____

4. Mr. Roberts makes 4 withdrawals of $10 each. How much has he withdrawn in total?

_____

5. A number added to 5 is equal to -11. Find the number.

_____

Integer word problems worksheet grade 7 are essential tools for students to master the application of integers in real-life situations. As students progress through their education, the ability to manipulate and understand integers becomes increasingly important, especially in higher math and various practical scenarios. In grade 7, students are typically introduced to more complex integer concepts, which include addition, subtraction, multiplication, and division of positive and negative numbers. This article will explore the significance of integer word problems, provide strategies for solving them, present examples, and offer a sample worksheet to help students practice.

Understanding Integers

Before diving into word problems, it's crucial to understand what integers are. Integers are whole numbers that can be positive, negative, or zero. This includes:

- Positive numbers (e.g., 1, 2, 3, ...)
- Negative numbers (e.g., -1, -2, -3, ...)
- Zero (0)

In grade 7, students learn to perform operations on integers and apply these skills to solve various problems. Since word problems often involve real-life contexts, it becomes necessary for students to be able to interpret and extract relevant information from the text.

The Importance of Integer Word Problems

Integer word problems serve multiple purposes in a student's educational journey:

- Critical Thinking: They enhance problem-solving skills and encourage logical reasoning.
- Real-World Application: Students learn how mathematics relates to everyday life, such as budgeting, temperature changes, and sports statistics.
- Preparation for Advanced Mathematics: Mastering integer operations lays a foundation for more complex algebraic concepts encountered in later grades.

Strategies for Solving Integer Word Problems

When tackling integer word problems, students can utilize several effective strategies:

1. Read the Problem Carefully

Understanding the scenario described in the problem is crucial. Students should read the problem multiple times to grasp the context and what is being asked.

2. Identify Key Information

Extract important numbers and keywords from the problem. This includes:

- The integers involved
- The operations required (addition, subtraction, multiplication, division)
- The context (e.g., temperature, altitude, money)

3. Determine the Operation

Decide which mathematical operation(s) to use based on the context of the problem. Recognizing keywords can help:

- Addition: total, combined, together
- Subtraction: difference, less than, remaining
- Multiplication: product, times, each
- Division: quotient, per, out of

4. Write an Equation

Once the operation is determined, students should translate the word problem into a mathematical equation. This step is crucial for visualizing the problem mathematically.

5. Solve and Check

After solving the equation, students should check their work by substituting the solution back into the original problem to ensure it makes sense.

Examples of Integer Word Problems

To illustrate these strategies, here are some sample integer word problems suitable for grade 7:

Example 1: Temperature Change

A city's temperature dropped from 3°C to -5°C overnight. What was the change in temperature?

Solution:

1. Identify the temperatures: 3°C and -5°C.
2. Determine the operation: Since the temperature decreased, we will subtract:
Change = Final Temperature - Initial Temperature
Change = -5 - 3 = -8
3. The temperature dropped by 8°C.

Example 2: Elevation Levels

A submarine is located 150 meters below sea level. If it ascends 70 meters, what is its new elevation?

Solution:

1. Identify the starting point: -150 meters (below sea level).
2. Ascend 70 meters:
New Elevation = Current Elevation + Ascent
New Elevation = -150 + 70 = -80
3. The submarine is now at 80 meters below sea level.

Example 3: Financial Transaction

John has $50. He spends $30 on groceries and then earns $20 from a side job. How much money does he have now?

Solution:

1. Start with the initial amount: $50.
2. Subtract the grocery expense:
Amount after spending = $50 - $30 = $20
3. Add the earnings:

Total Amount = $20 + $20 = $40
4. John has $40 left.

Sample Integer Word Problems Worksheet for Grade 7

To help students practice, here's a sample worksheet consisting of various integer word problems. Teachers and parents can use this as a tool for reinforcement:

Instructions: Solve the following word problems. Show your work for full credit.

1. A diver is at a depth of 40 feet. If he descends another 15 feet, what is his total depth?

2. The temperature in the morning was -2°C. By noon, it rose to 5°C. What was the temperature change?

3. Sarah scored 85 points on her first test and 72 points on her second test. What is the difference between her scores?

4. A bank account has a balance of $200. If a fee of $50 is charged, what is the new balance?

5. During a game, a player lost 12 points in the first half but gained 20 points in the second half. What is the player's total point change?

6. A mountain climber starts at an elevation of 3000 feet and climbs up 800 feet. What is the climber's new elevation?

7. A hot air balloon is flying at an altitude of 1200 meters. If it descends by 450 meters, what is its new altitude?

8. Tom has a score of -5 in a game. If he scores 15 points in the next round, what will his new score be?

Answer Key:
1. -55 feet
2. 7°C
3. 13 points
4. $150
5. 8 points
6. 3800 feet
7. 750 meters
8. 10 points

Conclusion

Integer word problems are a vital part of the grade 7 mathematics curriculum, helping students apply their knowledge of integers in real-world contexts. By using effective strategies and practicing with various problems, students develop critical thinking and problem-solving skills that will serve them well in their academic journey and beyond. The provided worksheet serves as an excellent resource for additional practice, reinforcing the concepts learned in class. With consistent practice, students will gain the confidence needed to tackle more complex mathematical challenges in the future.

Frequently Asked Questions

What types of integer word problems are commonly found in a grade 7 worksheet?

Common types include problems involving temperature changes, financial transactions, elevation changes, and distances with direction.

How can I help my grade 7 student understand integer word problems better?

Encourage them to visualize the problem using number lines, draw diagrams, and break the problem into smaller, manageable parts.

Are there specific strategies for solving integer word problems in grade 7?

Yes, strategies include identifying keywords that indicate addition or subtraction, setting up equations based on the problem, and checking answers for reasonableness.

What is the importance of learning integer word problems in grade 7?

Learning integer word problems enhances critical thinking, improves problem-solving skills, and lays the foundation for more advanced math concepts.

Can technology be used to assist in solving integer word problems for grade 7 students?

Absolutely! Educational apps and online resources provide interactive exercises and instant feedback, making learning engaging and effective.

How can parents support their children with integer word problems at home?

Parents can create real-life scenarios involving integers, practice problems together, and encourage discussions about different ways to approach the problems.

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