

## Worksheet: Operations on Decimals (Addition and Subtraction) : Difficulty Level : Advance

**Instructions:** Solve the following decimal problems. Make sure to show your work for full understanding.

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### Part 1: Addition and Subtraction

1. **Add the following decimals:**

- (a)  $56.789 + 34.567 =$  \_\_\_\_\_
- (b)  $101.234 + 99.876 =$  \_\_\_\_\_
- (c)  $78.456 + 12.345 + 1.234 =$  \_\_\_\_\_
- (d)  $3.987 + 0.543 + 45.789 =$  \_\_\_\_\_

2. **Subtract the following decimals:**

- (a)  $345.678 - 123.456 =$  \_\_\_\_\_
  - (b)  $78.901 - 56.789 =$  \_\_\_\_\_
  - (c)  $100.5 - 45.678 =$  \_\_\_\_\_
  - (d)  $12.345 - 9.876 =$  \_\_\_\_\_
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### Part 2: Multiplication

3. **Multiply the following decimals:**

- (a)  $8.432 \times 6.1 =$  \_\_\_\_\_
- (b)  $15.789 \times 0.4 =$  \_\_\_\_\_
- (c)  $0.987 \times 3.567 =$  \_\_\_\_\_
- (d)  $45.678 \times 2.05 =$  \_\_\_\_\_

4. **Word Problem:**

A bottle contains 0.678 liters of liquid. If there are 9.5 such bottles, how much liquid is there in total?

Answer: \_\_\_\_\_

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### Part 3: Division

5. **Divide the following decimals:**

- (a)  $123.456 \div 4.2 =$  \_\_\_\_\_
- (b)  $98.765 \div 3.5 =$  \_\_\_\_\_
- (c)  $34.567 \div 1.5 =$  \_\_\_\_\_
- (d)  $0.987 \div 0.33 =$  \_\_\_\_\_

6. **Word Problem:**

A total of 24.567 kg of grain is divided equally into 3.3 kg bags. How many full bags are there and how much grain is left over?

Answer: \_\_\_\_\_

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### Part 4: Mixed Operations

7. **Solve the following mixed operations:**

- (a)  $(9.876 + 5.432) \times 4.3 =$  \_\_\_\_\_
- (b)  $25.678 - (3.456 \times 2.1) =$  \_\_\_\_\_
- (c)  $56.789 \div (2.5 + 1.2) =$  \_\_\_\_\_
- (d)  $15.678 \div (5.5 - 2.1) =$  \_\_\_\_\_

8. **Word Problem:**

A bakery makes cookies that weigh 0.125 kg each. If they make 150.2 cookies, what is the total weight of the cookies?

Answer: \_\_\_\_\_

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### Part 5: Challenge Problems

9. **Advanced Word Problem:**

Lisa bought a 0.987 kg chocolate bar. She cut it into 5 equal pieces and ate one piece. How much chocolate is left?

Answer: \_\_\_\_\_

10. **Complex Calculation:**

$(40.123 \times 2.2) - (15.678 \div 1.5) + 10.567 =$  \_\_\_\_\_

11. **Challenge Question:**

Multiply 23.456 by 0.78 and then subtract 9.123 from the result.

Answer: \_\_\_\_\_

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### Part 6: Real-World Application

**12. Word Problem:**

A container holds 13.678 liters of juice. If 3.456 liters are poured out each time, how many times can the container be poured, and how much juice will remain after the last full pour?

Answer: \_\_\_\_\_

**13. Practical Problem:**

A roll of fabric measures 55.678 meters. If pieces of 4.123 meters each are cut from it, how many full pieces can be obtained and what is the remaining length?

Answer: \_\_\_\_\_

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**Part 7: Bonus Challenge**

**14. Bonus Problem:**

A pool holds 0.045 kg of chlorine per cubic meter. How much chlorine is needed for 320.5 cubic meters of water?

Answer: \_\_\_\_\_

**15. Challenge Puzzle:**

Divide 789.123 by 7.89 and then multiply the result by 0.56.

Answer: \_\_\_\_\_

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This worksheet provides a comprehensive set of advanced problems that cover a variety of decimal operations, ensuring students are challenged and engaged.

**—BE CHAMPION—**