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## Educational Worksheet

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### Answer Key: Add and Subtract Decimals

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**Grade 7 Mathematics - Medium Difficulty**

**Total Marks: 40**

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#### Section A: Basic Addition and Subtraction

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1.  $23.4 + 15.7 = \underline{39.1}$

2.  $67.89 + 23.4 = \underline{91.29}$

3.  $156.7 - 89.3 = \underline{67.4}$

4.  $45.67 - 28.9 = \underline{16.77}$

5.  $123.456 + 67.89 = \underline{191.346}$

6.  $234.5 - 167.89 = \underline{66.61}$

7.  $89.7 + 123.45 + 67.8 = \underline{280.95}$

8.  $456.78 - 289.456 = \underline{167.324}$

9.  $12.345 + 67.8 + 123.45 = \underline{203.595}$

10.  $789.4 - 456.789 = \underline{332.611}$

#### Section B: Mixed Operations

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11.  $45.6 + 23.78 - 12.9 = \underline{56.48}$

12.  $123.4 - 67.89 + 45.6 = \underline{101.11}$

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13.  $234.56 + 78.9 - 156.78 = \underline{\mathbf{156.68}}$

14.  $67.8 - 23.456 + 89.7 = \underline{\mathbf{134.044}}$

15.  $345.67 + 123.4 - 234.56 + 67.8 = \underline{\mathbf{302.31}}$

16.  $456.7 - 234.89 + 123.45 - 67.8 = \underline{\mathbf{277.46}}$

17.  $789.45 + 123.6 - 456.78 + 234.5 = \underline{\mathbf{690.77}}$

18.  $234.5 - 123.67 + 456.8 - 234.56 = \underline{\mathbf{333.07}}$

## Section C: Word Problems

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19.  $\pounds 12.45 + \pounds 3.67 + \pounds 5.89 = \underline{\mathbf{\pounds 22.01}}$

20.  $\pounds 145.67 + \pounds 23.45 - \pounds 67.89 = \underline{\mathbf{\pounds 101.23}}$

21.  $2.5 + 1.75 + 0.85 = \underline{\mathbf{4.1\text{ kg}}}$

22.  $3.7 + 4.85 + 2.95 = \underline{\mathbf{11.5\text{ km}}}$

23.  $\pounds 1,250.50 - \pounds 345.67 - \pounds 234.89 - \pounds 156.75 = \underline{\mathbf{\pounds 513.19}}$

24.  $45.67 + 23.8 - 12.45 = \underline{\mathbf{57.02\text{ mL}}}$

## Section D: Problem Solving Challenges

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25.  $23.4 + \underline{\mathbf{8.23}} - 12.67 = 18.9$

26. Estimate: **Greater than 100** ( $34 + 29 + 31 + 7 = 101$  approximately)

27.  $2.75 + 3.2 + 2.95 - 1.85 = \underline{\mathbf{7.05\text{ kg}}}$

28. **22.1, 25.3** (adding 3.2 each time)

29.  $\pounds 2.45 + \pounds 1.67 + \pounds 3.89 = \pounds 8.01$ . **Yes, he has enough. Change = \pounds 0.76**

30.  $156.7 - 34.85 - 23.9 - 45.67 = \underline{\mathbf{52.28\text{ cm}}}$

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## Teaching Notes

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### Common Mistakes to Watch For:

- **Alignment**: Not aligning decimal points when adding/subtracting
- **Placeholders**: Forgetting to include zeros as placeholders
- **Word Problems**: Misreading whether to add or subtract
- **Mixed Operations**: Incorrect order of operations with multiple steps

### Extension Activities:

- Create decimal word problems using real store prices
- Practice estimating before calculating exact answers
- Use a calculator to check difficult calculations
- Research decimal usage in sports (times, distances, scores)

### Assessment Criteria:

- **Excellent (36-40 marks)**: Confident with all operations, minimal errors
- **Good (30-35 marks)**: Mostly accurate, minor calculation mistakes
- **Satisfactory (24-29 marks)**: Basic understanding, some alignment issues
- **Needs Support (<24 marks)**: Requires additional practice with decimal concepts

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*This answer key corresponds to: add-subtract-decimals.md*