

# Decimal Operations

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

When you **add or subtract** decimals, line up the decimal points so place values match, then add zeros if needed to even out the digits. When you **multiply** decimals, ignore the points at first, multiply like whole numbers, then count the total decimal places in both factors and put that many in the answer. When you **divide** by a decimal, slide the decimal point in the divisor to make it a whole number, and slide the dividend's point the same number of places. Always estimate to check your answer makes sense.

◇ **Example:** Find  $4.8 \div 0.6$ .

⇒ Dividing by a decimal feels tricky, so first make the divisor a whole number. The divisor is 0.6 — slide its decimal point one place right to get 6. We must slide the dividend's point the same one place, so 4.8 becomes 48. Now the problem is the friendly  $48 \div 6$ , which is 8. A quick check:  $8 \times 0.6 = 4.8$ , so 8 is correct.

**Answer:** 8

## PRACTICE

Compute. Write each answer as a decimal.

- |                      |       |                       |       |
|----------------------|-------|-----------------------|-------|
| 1. $3.6 + 4.75$      | _____ | 11. $0.25 \times 8$   | _____ |
| 2. $5.25 + 3.8$      | _____ | 12. $1.5 \times 1.5$  | _____ |
| 3. $3.75 + 6.5$      | _____ | 13. $0.9 \times 0.07$ | _____ |
| 4. $12.4 - 7.85$     | _____ | 14. $0.45 \times 0.2$ | _____ |
| 5. $9.1 - 2.36$      | _____ | 15. $2.4 \times 3.5$  | _____ |
| 6. $8.06 - 3.9$      | _____ | 16. $4.8 \div 0.6$    | _____ |
| 7. $15.6 - 9.84$     | _____ | 17. $7.2 \div 0.9$    | _____ |
| 8. $10 - 2.375$      | _____ | 18. $6.4 \div 0.8$    | _____ |
| 9. $0.6 \times 0.4$  | _____ | 19. $12.5 \div 2.5$   | _____ |
| 10. $2.5 \times 1.2$ | _____ | 20. $0.144 \div 0.12$ | _____ |

## ◆ Word Problems

21. Maya pays with a \$20 bill for 3 smoothies that cost \$4.85 each. How much change does she get? \_\_\_\_\_
22. A roll of wire is 12 meters long. Each meter weighs 0.85 kilogram. What is the total weight of the roll? \_\_\_\_\_
23. A gardener has 23.7 liters of plant food and uses 0.3 liter on each plant. How many plants can be fed? \_\_\_\_\_
24. Liam buys items costing \$6.25, \$4.80, and \$3.95. What is the total cost? \_\_\_\_\_



## Answer Keys

- |                                       |  |
|---------------------------------------|--|
| 1. <input type="text" value="8.35"/>  | 13. <input type="text" value="0.063"/>     |
| 2. <input type="text" value="9.05"/>  | 14. <input type="text" value="0.09"/>      |
| 3. <input type="text" value="10.25"/> | 15. <input type="text" value="8.4"/>       |
| 4. <input type="text" value="4.55"/>  | 16. <input type="text" value="8"/>         |
| 5. <input type="text" value="6.74"/>  | 17. <input type="text" value="8"/>         |
| 6. <input type="text" value="4.16"/>  | 18. <input type="text" value="8"/>         |
| 7. <input type="text" value="5.76"/>  | 19. <input type="text" value="5"/>         |
| 8. <input type="text" value="7.625"/> | 20. <input type="text" value="1.2"/>       |
| 9. <input type="text" value="0.24"/>  | 21. <input type="text" value="\$5.45"/>    |
| 10. <input type="text" value="3"/>    | 22. <input type="text" value="10.2 kg"/>   |
| 11. <input type="text" value="2"/>    | 23. <input type="text" value="79 plants"/> |
| 12. <input type="text" value="2.25"/> | 24. <input type="text" value="\$15.00"/>   |

### Step-by-Step Explanations

- |  |   |
|--|---|
| 1. Line up the points and add: $3.60 + 4.75 = 8.35$ .                        | 13. $9 \times 7 = 63$ ; three decimal places gives 0.063.                                     |
| 2. Line up the points: $5.25 + 3.80 = 9.05$ .                                | 14. $45 \times 2 = 90$ ; three decimal places gives $0.090 = 0.09$ .                          |
| 3. $3.75 + 6.50 = 10.25$ when the points are lined up.                       | 15. $24 \times 35 = 840$ ; two decimal places gives $8.40 = 8.4$ .                            |
| 4. Write $12.40 - 7.85$ and subtract to get 4.55.                            | 16. Slide both points one place: $48 \div 6 = 8$ .  |
| 5. $9.10 - 2.36 = 6.74$ with the points aligned.                             | 17. Slide both points one place: $72 \div 9 = 8$ .  |
| 6. $8.06 - 3.90 = 4.16$ .  | 18. Slide both points one place: $64 \div 8 = 8$ .  |
| 7. $15.60 - 9.84 = 5.76$ .   | 19. Slide both points one place: $125 \div 25 = 5$ .  |
| 8. Think of 10 as 10.000, then subtract: $10.000 - 2.375 = 7.625$ .          | 20. Slide both points two places: $14.4 \div 12 = 1.2$ .                                      |
| 9. $6 \times 4 = 24$ , and with two decimal places total the answer is 0.24. | 21. First find the cost: $3 \times 4.85 = 14.55$ . Then the change is $20 - 14.55 = \$5.45$ . |
| 10. $25 \times 12 = 300$ ; two decimal places gives $3.00 = 3$ .             | 22. Multiply length by weight per meter: $0.85 \times 12 = 10.2$ kilograms.                   |
| 11. $25 \times 8 = 200$ ; two decimal places gives $2.00 = 2$ .              | 23. $23.7 \div 0.3$ : slide both points one place to get $237 \div 3 = 79$ plants.            |
| 12. $15 \times 15 = 225$ ; two decimal places gives 2.25.                    | 24. Add the three prices with points aligned: $6.25 + 4.80 + 3.95 = \$15.00$ .                |



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