Decimal Operations

Name: _____	Date: _____	Score: _____ / 24

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. $3.6 + 4.75$ _____

2. $5.25 + 3.8$ _____

3. $3.75 + 6.5$ _____

4. $12.4 - 7.85$ _____

5. $9.1 - 2.36$ _____

6. $8.06 - 3.9$ _____

7. $15.6 - 9.84$ _____

8. $10 - 2.375$ _____

9. 0.6×0.4 _____

10. 2.5×1.2 _____

11. 0.25×8 _____

12. 1.5×1.5 _____

13. 0.9×0.07 _____

14. 0.45×0.2 _____

15. 2.4×3.5 _____

16. $4.8 \div 0.6$ _____

17. $7.2 \div 0.9$ _____

18. $6.4 \div 0.8$ _____

19. $12.5 \div 2.5$ _____

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. 8.35
2. 9.05
3. 10.25
4. 4.55
5. 6.74
6. 4.16
7. 5.76
8. 7.625
9. 0.24
10. 3
11. 2
12. 2.25
13. 0.063
14. 0.09
15. 8.4
16. 8
17. 8
18. 8
19. 5
20. 1.2
21. $\$5.45$
22. 10.2 kg
23. 79 plants
24. $\$15.00$

Step-by-Step Explanations

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

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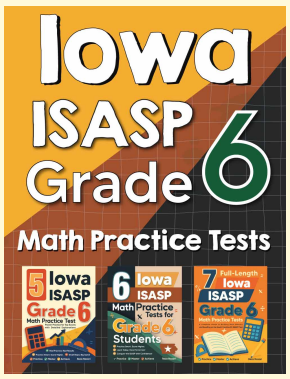

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