

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. 0.25×8 | _____ |
| 2. $5.25 + 3.8$ | _____ | 12. 1.5×1.5 | _____ |
| 3. $3.75 + 6.5$ | _____ | 13. 0.9×0.07 | _____ |
| 4. $12.4 - 7.85$ | _____ | 14. 0.45×0.2 | _____ |
| 5. $9.1 - 2.36$ | _____ | 15. 2.4×3.5 | _____ |
| 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. 0.6×0.4 | _____ | 19. $12.5 \div 2.5$ | _____ |
| 10. 2.5×1.2 | _____ | 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

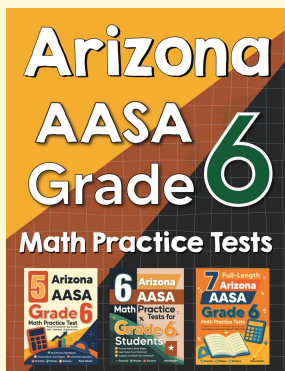
- | | |
|---------------------------------------|--|
| 1. <input type="text" value="8.35"/> | 13. <input type="text" value="0.063"/> |
| 2. <input type="text" value="9.05"/> | 14. <input type="text" value="0.09"/> |
| 3. <input type="text" value="10.25"/> | 15. <input type="text" value="8.4"/> |
| 4. <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

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