Multiplying and Dividing Decimals

Name: _____	Date: _____	Score: _____ / 18

Quick Review and Helpful Hints

To *multiply* decimals, ignore the points and multiply like whole numbers, then place the decimal point so the answer has as many decimal places as the two factors combined. To *divide*, shift the divisor's point to make it a whole number, shift the dividend's point the same number of places, and divide.

▷ **Example:** Multiply 0.6×0.4. **Work:** Ignore the points: $6 \times 4 = 24$. The factors have $1+1=2$ decimal places, so place the point two spots in. ★ **Answer:** 0.24

$$0.6 \times 0.4$$
$$\downarrow$$
$$6 \times 4 = 24$$
$$\Rightarrow 0.24$$

$1 + 1 = 2$ decimal places.

Practice Problems

Multiply or divide.

1. 0.2×0.3 _____

2. 0.5×0.4 _____

3. 1.2×0.3 _____

4. 0.7×6 _____

5. 2.5×0.4 _____

6. 0.9×0.9 _____

7. $3.6 \div 0.6$ _____

8. $4.8 \div 0.4$ _____

9. 0.25×4 _____

10. 1.5×1.5 _____

11. 0.08×5 _____

12. $7.2 \div 0.9$ _____

13. 0.6×0.05 _____

14. $9.6 \div 0.8$ _____

Word Problems

15. Three notebooks cost $\$2.50$ each. What is the total cost? _____

16. A $\$12.60$ bill is split equally among 6 people. How much does each pay? _____

17. Apples cost $\$4.40$ per pound. What is the cost of 0.5 pound? _____

18. A track lap is 0.7 mile. How many laps make 8.4 miles? _____

Answer Keys

1. 0.06	**7.** 6	**13.** 0.03
2. 0.2	**8.** 12	**14.** 12
3. 0.36	**9.** 1	**15.** $\$7.50$
4. 4.2	**10.** 2.25	**16.** $\$2.10$
5. 1	**11.** 0.4	**17.** $\$2.20$
6. 0.81	**12.** 8	**18.** 12 laps

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Ignore the points and multiply: $2 \times 3 = 6$. The factors have $1 + 1 = 2$ decimal places, so place the point two spots in: 0.06. So the final answer is 0.06.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $5 \times 4 = 20$, with 2 decimal places: 0.20, which is 0.2. So the final answer is 0.2.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $12 \times 3 = 36$, with 2 decimal places: 0.36. So the final answer is 0.36.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $7 \times 6 = 42$, with 1 decimal place: 4.2. So the final answer is 4.2.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $25 \times 4 = 100$, with 2 decimal places: 1.00, which is 1. So the final answer is 1.

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $9 \times 9 = 81$, with 2 decimal places: 0.81. So the final answer is 0.81.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Make the divisor whole by moving both points one place: $36 \div 6 = 6$. So the final answer is 6.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Move both points one place: $48 \div 4 = 12$. So the final answer is 12.

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $25 \times 4 = 100$, with 2 decimal places: $1.00 = 1$. So the final answer is 1.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $15 \times 15 = 225$, with 2 decimal places: 2.25. So the final answer is 2.25.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $8 \times 5 = 40$, with 2 decimal places: $0.40 = 0.4$. So the final answer is 0.4.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Move both points one place: $72 \div 9 = 8$. So the final answer is 8.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $6 \times 5 = 30$, with $1 + 2 = 3$ decimal places: $0.030 = 0.03$. So the final answer is 0.03.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Move both points one place: $96 \div 8 = 12$. So the final answer is 12.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Multiply the price by the quantity: $2.50 \times 3 = \$7.50$. So the final answer is $\$7.50$.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Divide the bill among the people: $12.60 \div 6 = \$2.10$ each. So the final answer is $\$2.10$.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Multiply the cost per pound by the weight: $4.40 \times 0.5 = \$2.20$. So the final answer is $\$2.20$.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Divide the distance by the lap length: $8.4 \div 0.7$; moving both points gives $84 \div 7 = 12$ laps. So the final answer is 12 laps.

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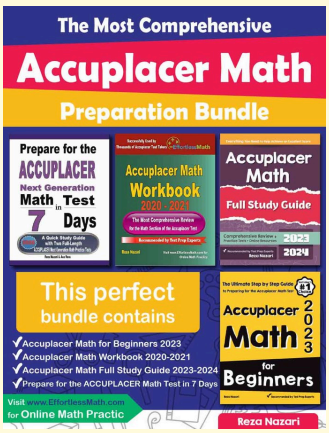

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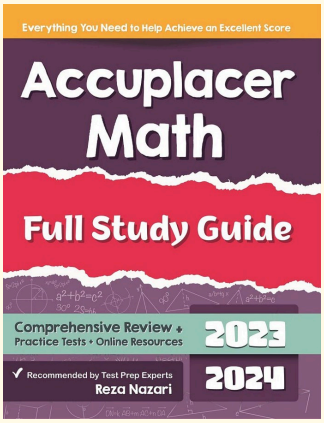

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