Dividing Decimals by Decimals

Dividing Decimals by Decimals: Apply, Compare, and Design

Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

Multiply both dividend and divisor by the same power of ten to make the divisor whole. Thus $4.2 \div 0.6 = 42 \div 6 = 7$. Check $7 \times 0.6 = 4.2$; changing only the divisor changes the quotient.

Worked example

Calculate $5.6 \div 0.8$. Show the place-value or fraction calculation.

1. Multiply both numbers by 10: $5.6 \div 0.8 = 56 \div 8$.
2. $7 \times 8 = 56$, leaving $56 - 56 = 0$.
3. No remainder: $56 \div 8 = 7$.
4. Check: $7 \times 0.8 = 5.6$.

Answer: 7.

Practice Problems

Show your thinking.

1. There are 1.35 L of juice. One full portion is 0.6 L. How many portions is that, including any fraction of a portion?

2. Choose the missing amount so this plan totals 3.25: $1.625 \div \square$. Write the completed equation.

3. Plan A uses $5.1 \div 1.2$ units. Plan B uses $5.1 \div 2.4$ units. Which produces the larger amount, and by how much?

4. Each of two containers holds $4.725 \div 0.9$ L. Another 0.1 L is added to their combined contents. Find the final volume.

5. Choose the missing amount so this plan totals 6.25: $4.375 \div \square$. Write the completed equation.

6. Complete the two-output table for the rule: input $\div 1.5$. Inputs are 10.875 and 21.75. Compare the outputs.

Input	Output
10.875	
21.75	

7. A student writes $3.3 \div 0.4 = 8.35$. Correct the result and check it.

8. Use an inverse operation to verify a proposed result of 9.25 for $3.2375 \div 0.35$. Show both computations.

Answer Key

1. 2.25 portions: 2 full and 0.25 of one portion.
2. 0.5; $1.625 \div 0.5 = 3.25$.
3. Plan A by 2.125 units.
4. 10.6 L.
5. 0.7; $4.375 \div 0.7 = 6.25$.
6. Outputs 7.25 and 14.5; second minus first is 7.25.
7. 8.25, not 8.35.
8. The result 9.25 is correct.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. 2 full portions use $2 \times 0.6 = 1.2$ L.
2. That leaves $1.35 - 1.2 = 0.15$ L.
3. The leftover makes $0.15 \div 0.6 = 0.25$ of a portion. Total: $2 + 0.25 = 2.25$ portions.
4. Check: $2.25 \times 0.6 = 1.35$ L.

Problem 2

1. Multiply both numbers by 1000: $1.625 \div 0.5 = 1625 \div 500$.
2. $3 \times 500 = 1500$, leaving $1625 - 1500 = 125$.
3. The leftover is $125/500 = 0.25$ of one group, so the quotient is $3 + 0.25 = 3.25$.
4. Check: $3.25 \times 0.5 = 1.625$.
5. Using 0.5 in the plan gives exactly 3.25.

Problem 3

1. Multiply both numbers by 10: $5.1 \div 1.2 = 51 \div 12$.
2. $4 \times 12 = 48$, leaving $51 - 48 = 3$.
3. The leftover is $3/12 = 0.25$ of one group, so the quotient is $4 + 0.25 = 4.25$.
4. Check: $4.25 \times 1.2 = 5.1$.
5. Plan B: $5.1 \div 2.4 = 2.125$ units.
6. The difference in amounts is 2.125 units.

Problem 4

1. Multiply both numbers by 1000: $4.725 \div 0.9 = 4725 \div 900$.
2. $5 \times 900 = 4500$, leaving $4725 - 4500 = 225$.
3. The leftover is $225/900 = 0.25$ of one group, so the quotient is $5 + 0.25 = 5.25$.
4. Check: $5.25 \times 0.9 = 4.725$.
5. Two containers hold $2 \times 5.25 = 10.5$ L.
6. After the addition: $10.5 + 0.1 = 10.6$ L.

Problem 5

1. Multiply both numbers by 1000: $4.375 \div 0.7 = 4375 \div 700$.
2. $6 \times 700 = 4200$, leaving $4375 - 4200 = 175$.
3. The leftover is $175/700 = 0.25$ of one group, so the quotient is $6 + 0.25 = 6.25$.
4. Check: $6.25 \times 0.7 = 4.375$.
5. Using 0.7 in the plan gives exactly 6.25.

Problem 6

1. Multiply both numbers by 1000: $10.875 \div 1.5 = 10875 \div 1500$.
2. $7 \times 1500 = 10500$, leaving $10875 - 10500 = 375$.
3. The leftover is $375/1500 = 0.25$ of one group, so the quotient is $7 + 0.25 = 7.25$.
4. Check: $7.25 \times 1.5 = 10.875$.
5. Second output: $21.75 \div 1.5 = 14.5$; difference $14.5 - 7.25 = 7.25$.

Problem 7

1. Multiply both numbers by 10: $3.3 \div 0.4 = 33 \div 4$.
2. $8 \times 4 = 32$, leaving $33 - 32 = 1$.
3. The leftover is $1/4 = 0.25$ of one group, so the quotient is $8 + 0.25 = 8.25$.
4. Check: $8.25 \times 0.4 = 3.3$.
5. The claimed value differs by 0.1, so it fails the exact calculation.

Problem 8

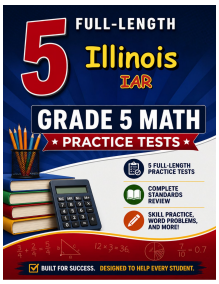
1. Multiply both numbers by 10000: $3.2375 \div 0.35 = 32375 \div 3500$.
2. $9 \times 3500 = 31500$, leaving $32375 - 31500 = 875$.
3. The leftover is $875/3500 = 0.25$ of one group, so the quotient is $9 + 0.25 = 9.25$.
4. Check: $9.25 \times 0.35 = 3.2375$.
5. Inverse check: $9.25 \times 0.35 = 3.2375$.

TESTINAR

Keep Building Grade 5 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 5 books



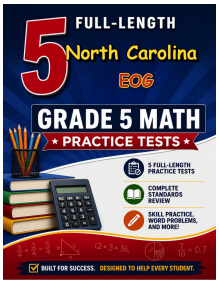
ILLINOIS IAR

5 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook



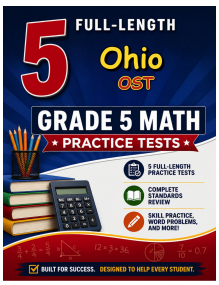
NORTH CAROLINA EOG

5 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook



OHIO OST

5 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 5 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/5