Decimal Operations

Decimal operations: Mistakes and missing information

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

QUICK REVIEW

For addition/subtraction align decimal places: $3.40 - 1.75 = 1.65$. For multiplication count decimal places: $1.2 \times 0.4 = 0.48$. For division multiply both numbers by the same power of ten: $4.8/0.6 = 48/6 = 8$. Estimate first to check the size.

Worked example

Compute $6.3 \div 0.7$.

1. Multiply both numbers by 10: $6.3 \div 0.7 = 63 \div 7$.
2. 9 groups use $9 \times 7 = 63$, leaving $63 - 63 = 0$.
3. Nothing is left, so the quotient is 9.
4. Check $9 \times 0.7 = 6.3$.

Answer: 9.

Practice Problems

Show your thinking.

1. Correct $3.6 \div 0.4 = 0.9$.

2. Find x in $x + 2.7 = 9.15$.

3. A student gets 10 for 1.25×0.8. Correct the decimal placement.

4. Find x in $0.6x = 5.04$.

5. Correct subtracting 3.48 from 10 as 7.52.

6. Find the total in $0.75 + 0.25$ and explain the regrouping.

7. Correct the product $2.8 \times 0.05 = 1.4$.

8. Recover x in $1.2x = 4.68$.

Answer Key

1. 9.
2. 6.45.
3. 1.
4. 8.4.
5. 6.52.
6. 1.
7. 0.14.
8. 3.9.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Multiply both numbers by 10: $3.6 \div 0.4 = 36 \div 4$.
2. 9 groups use $9 \times 4 = 36$, leaving $36 - 36 = 0$.
3. Nothing is left, so the quotient is 9.
4. Check $9 \times 0.4 = 3.6$.

Problem 2

1. Align the decimal points: write 9.15 and 2.70 to the same decimal place.
2. In hundredths, $915 - 270 = 645$.
3. Rename: 645 hundredths is 6.45, since $645 \div 100 = 6.45$.

Problem 3

1. Write $1.25 = 125/100$ and $0.8 = 8/10$.
2. Multiply the whole counts: $125 \times 8 = 1000$.
3. The combined scale is $100 \times 10 = 1000$. Therefore $1000/1000 = 1$.

Problem 4

1. Multiply both numbers by 100: $5.04 \div 0.6 = 504 \div 60$.
2. 8 groups use $8 \times 60 = 480$, leaving $504 - 480 = 24$.
3. The leftover is $24/60 = 0.4$ of one group, so the result is 8.4.
4. Check $8.4 \times 0.6 = 5.04$.

Problem 5

1. Align the decimal points: write 10.00 and 3.48 to the same decimal place.
2. In hundredths, $1000 - 348 = 652$.
3. Rename: 652 hundredths is 6.52, since $652 \div 100 = 6.52$.

Problem 6

1. Align the decimal points: write 0.75 and 0.25 to the same decimal place.
2. In hundredths, $75 + 25 = 100$.
3. Rename: 100 hundredths is 1, since $100 \div 100 = 1$.

Problem 7

1. Write $2.8 = 28/10$ and $0.05 = 5/100$.
2. Multiply the whole counts: $28 \times 5 = 140$.
3. The combined scale is $10 \times 100 = 1000$. Therefore $140/1000 = 0.14$.

Problem 8

1. Multiply both numbers by 100: $4.68 \div 1.2 = 468 \div 120$.
2. 3 groups use $3 \times 120 = 360$, leaving $468 - 360 = 108$.
3. The leftover is $108/120 = 0.9$ of one group, so the result is 3.9.
4. Check $3.9 \times 1.2 = 4.68$.

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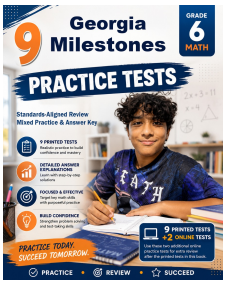

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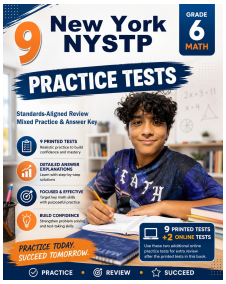

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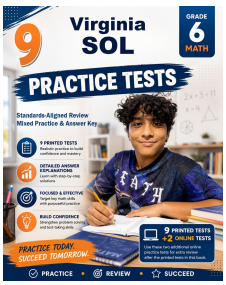

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