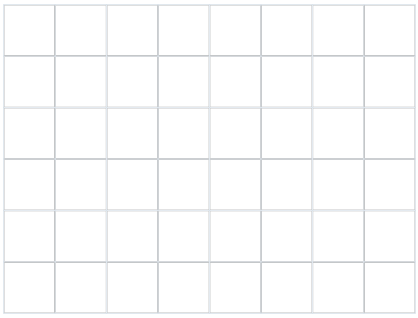
Year 6 - Short Division with a Decimal Answer — Lesson Guide

Step 1

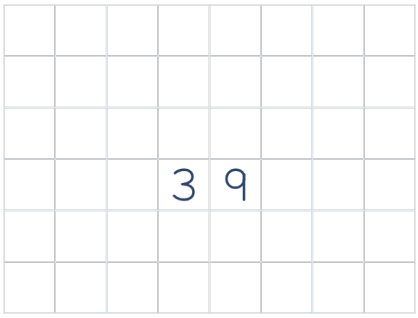
39 ÷ 4 = ☐ as a decimal



First, we circle the division sign so we know to divide.

Step 2

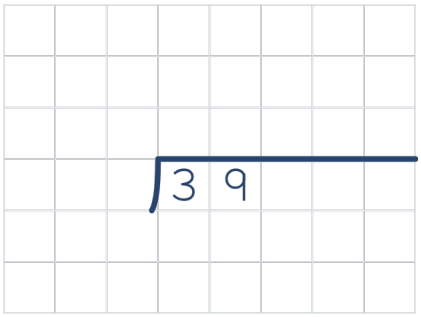
39 ÷ 4 = ☐ as a decimal



The dividend is 39, the number we are dividing. We leave a row above the dividend for the quotient, our answer. We write 39 in the correct columns, with one digit in each box.

Step 3

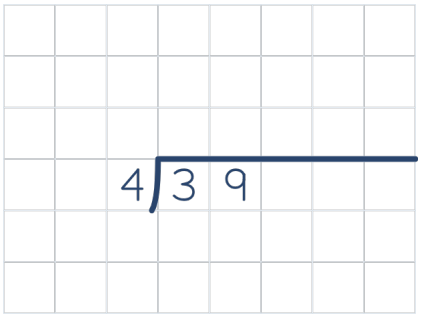
39 ÷ 4 = ☐ as a decimal



After that, we draw a short curved line on the left of the dividend and a straight line above it.

Step 4

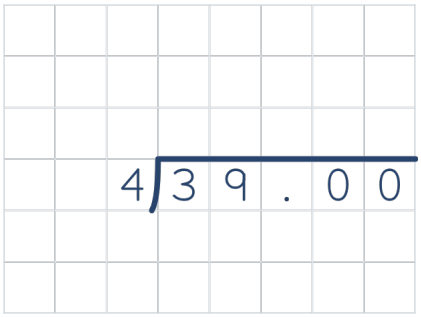
39 ÷ 4 = ☐ as a decimal



Then, we write 4 on the left of the curved line. This is the divisor, the number we are dividing by.

Step 5

39 ÷ 4 = ☐ as a decimal

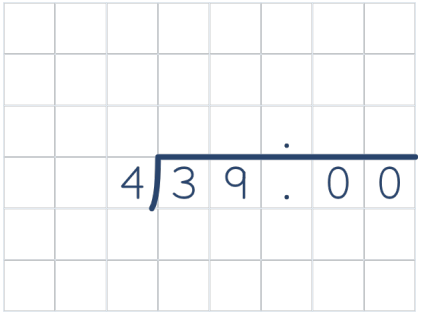


Remember: Adding zeros at the end of the decimal keeps the value the same. Keep each quotient digit above its matching column.

After the ones, put in the decimal point and 2 zeros to write 39.00 inside the bracket. This has the same value as 39, with zero tenths and hundredths to start with. The extra places let us exchange any remainder into smaller units and keep dividing.

Step 6

39 ÷ 4 = ☐ as a decimal

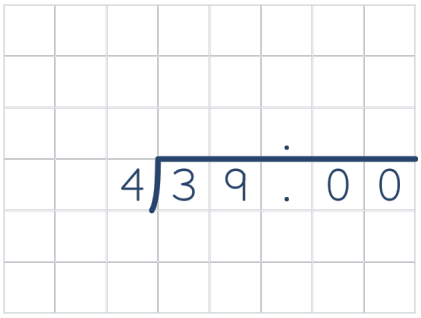


Remember: The decimal points in the dividend and quotient line up.

We write the decimal point in the quotient, directly above the decimal point in the dividend.

Step 7

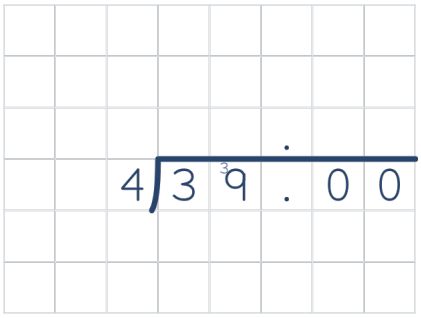
39 ÷ 4 = ☐ as a decimal



First, we divide the tens, starting on the left with the largest place value. 3 tens ÷ 4 gives 0 tens, with 3 tens left over. There are no whole groups in this column, so we leave its answer box empty.

Step 8

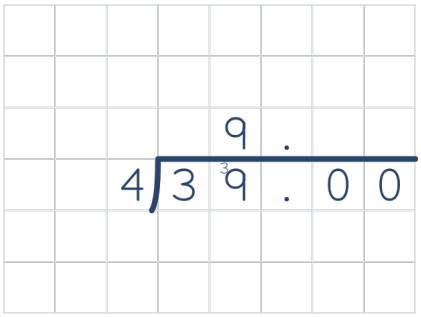
39 ÷ 4 = ☐ as a decimal



Now, we exchange the 3 tens left over for 30 ones. We write a smaller 3 at the top left of the next digit's square. Together with the 9 already there, this gives 39 ones for the next step.

Step 9

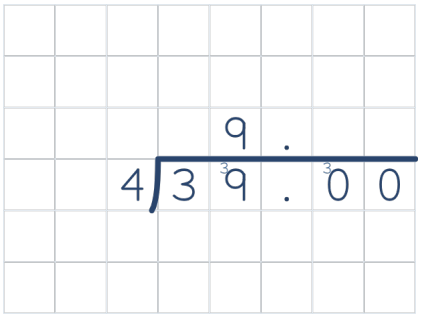
39 ÷ 4 = ☐ as a decimal



Next, we divide the ones. Read the small 3 and the 9 together as 39 ones. The small 3 stands for 30 ones exchanged from the tens column. Share 39 ones equally between 4 groups. 9 ones in each group uses 36 ones. 3 ones are left over for the next exchange. We write 9 in the ones answer box above the line.

Step 10

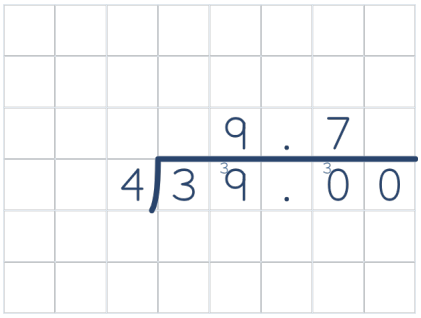
39 ÷ 4 = ☐ **as a decimal**



Now, we exchange the 3 ones left over for 30 tenths. We write a smaller 3 at the top left of the next digit's square. Together with the 0 already there, this gives 30 tenths for the next step.

Step 11

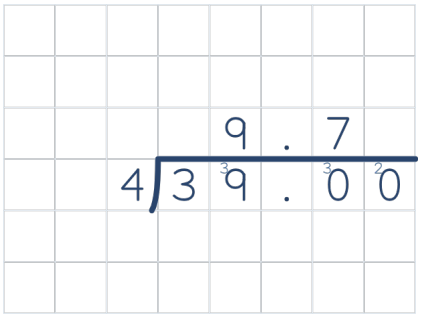
39 ÷ 4 = ☐ **as a decimal**



Next, we divide the tenths. Read the small 3 and the 0 together as 30 tenths. The small 3 stands for 30 tenths exchanged from the ones column. Share 30 tenths equally between 4 groups. 7 tenths in each group uses 28 tenths. 2 tenths are left over for the next exchange. We write 7 in the tenths answer box above the line.

Step 12

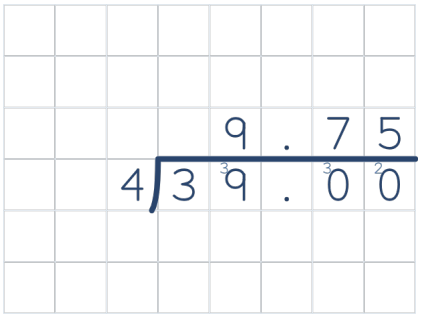
39 ÷ 4 = ☐ **as a decimal**



Now, we exchange the 2 tenths left over for 20 hundredths. We write a smaller 2 at the top left of the next digit's square. Together with the 0 already there, this gives 20 hundredths for the next step.

Step 13

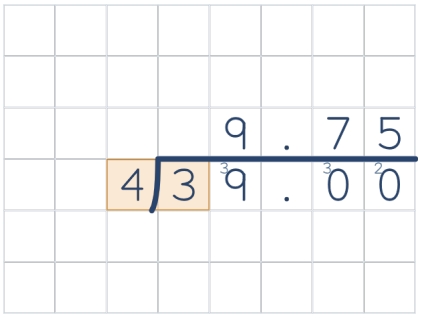
39 ÷ 4 = ☐ **as a decimal**



Finally, we divide the hundredths. Read the small 2 and the 0 together as 20 hundredths. The small 2 stands for 20 hundredths exchanged from the tenths column. 20 hundredths ÷ 4 gives 5 hundredths. We write 5 in the hundredths answer box above the line.

Step 14

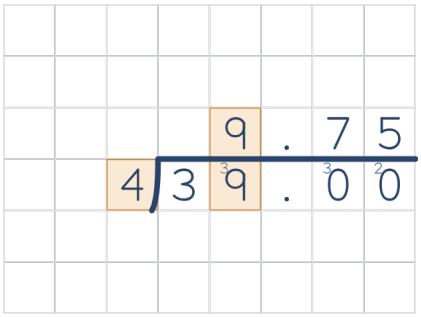
39 ÷ 4 = ☐ **as a decimal**



Our quotient is 9.75. Before we copy our answer into the answer box, let's check each column, including the exchanges. First, we check the tens. We ask again, "How many 4s are in 3?" 0 groups of 4 make 0, with 3 left over. We have left this quotient position empty because there are no whole groups. We have exchanged the 3 tens left over into the next column.

Step 15

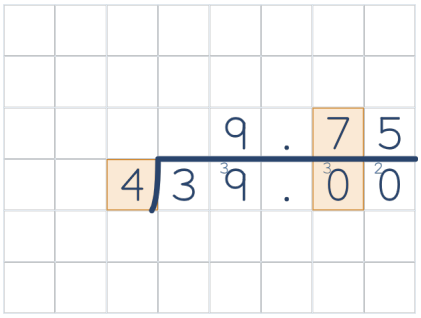
39 ÷ 4 = ☐ **as a decimal**



Next, we check the ones. We ask again, "How many 4s are in 39?" 9 groups of 4 make 36, with 3 left over. We have written 9 above this column. We have exchanged the 3 ones left over into the next column.

Step 16

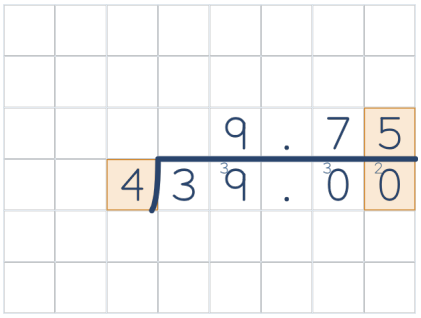
39 ÷ 4 = ☐ **as a decimal**



Next, we check the tenths. We ask again, “How many 4s are in 30?” 7 groups of 4 make 28, with 2 left over. We have written 7 above this column. We have exchanged the 2 tenths left over into the next column.

Step 17

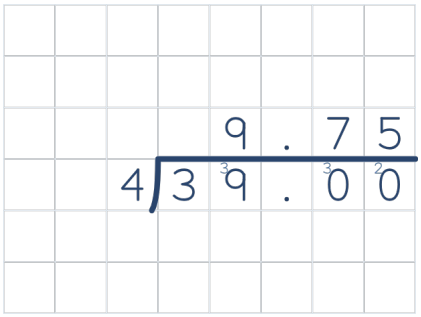
39 ÷ 4 = ☐ **as a decimal**



Finally, we check the hundredths. We ask again, “How many 4s are in 20?” 5 groups of 4 make 20. We have written 5 above this column. There is nothing left over in this column.

Step 18

39 ÷ 4 = **9.75** **as a decimal**



The quotient is 9.75. Copy 9.75 into the answer box. Make sure you copy the answer correctly.