

Possible Solutions

Write 0.000925 in scientific notation.

When converting to scientific notation remember that only one digit can be moved in front of the decimal point. Remember to count the number of places the digit moves and because this is a small number, the exponent will be negative. Therefore, the first number in scientific notation for this number will be the 9 followed by the decimal point with the rest of the numbers that follow, 25.

0.000925


The decimal point needs to move to behind the first number that is not 0. Count the number of spaces the decimal moved; that is the power for 10. If the decimal moved to the right to convert from a decimal standard form to scientific notation, the power of the exponent is negative. Because the decimal point would move to the right 4 spaces to move behind the 9, the power of 10 would be -4 so the answer is 9.25×10^{-4}

Write 3,450,000 in scientific notation.

For the second example, the number starts out large, so the exponent will be a positive number. Therefore the first number in scientific notation for this number will be the 3, followed by the decimal point with the rest of the numbers that follow, 45.

3,450,000


The decimal point needs to move to behind the first number that is not 0. Count the number of spaces the decimal moved; that is the power for 10. If the decimal moved to the left converting a large number to a decimal, the power of the exponent is positive. Because the decimal point would move to the left 6 spaces to move behind the 3, the power for 10 would be 6 so the answer is 3.45×10^6 .

When converting to standard notation, remember the exponent determines the value of the place value of the number.

Write 9.25×10^{-4} in standard form.

The exponent is negative, so it requires the student to move the decimal to the left to create a smaller number. 9.25×10^{-4} move the decimal from after the 9 and 4 spaces to the left so the solution is 0.000925.

0.000925


Write 3.45×10^6 in standard form.

The number starts out with a positive exponent, so it requires the student to move the decimal to the right.

3,450,000


Because the decimal point would move to the left 6 spaces to move behind the 3, the power for 10 would be 6 so the solution is 3,450,000.