Trailing zeros are the zeros at the end of a number that have no nonzero digits after them. Since trailing zeros after the decimal point do not change the value of a decimal, we usually don't write them.

For example, we usually write 0.2 instead of 0.20, 0.2000, 0.200000, and so on.

EXAMPLE | Compute 0.25×0.04.

We begin by multiplying $25\times4=100$. Then, we determine where to place the decimal point.

0.25 and 0.04 have a total of $2+2=4$ digits right of the decimal point.

$$0.\underbrace{25}_{2}\times0.\underbrace{04}_{2}$$

So, we move the decimal point in 100 so that there are 4 digits to the right of the decimal point, ***including*** the trailing zeros.

$$0.\underbrace{0100}_{4}$$

After we have placed the decimal point, we can remove the trailing zeros.

$$0.01$$

So, $0.25\times0.04=$ **0.01**.

PRACTICE | Compute each product below.

89. $0.2\times0.5=$ _____

90. $0.06\times0.25=$ _____

91. $0.075\times0.8=$ _____

92. $0.00125\times0.032=$ _____

93. ★ Not including trailing zeros, how many digits are to the right of the decimal point in the product below? **93.** _____

$$0.9\times0.8\times0.7\times0.6\times0.5\times0.4\times0.3\times0.2\times0.1$$

94. ★ Not including trailing zeros, how many digits are to the right of the decimal point in the product $(0.3)^{15}\times(0.07)^{15}$? **94.** _____

95. ★ Not including trailing zeros, how many digits are to the right of the decimal point in the product $(0.6)^{15}\times(0.05)^{15}$? **95.** _____

PRACTICE For the problems below, fill in each blank with a digit so that the equation is true and ***no numbers have trailing zeros***.

96. $0.7 \times 0.\square = 0.5\square$

97. $10.\square \times 0.\square = 3.\square 6$

98. $0.\square \times 0.2 = 0.\square$

99. $0.6 \times 2.\square = \square.\square$

100. $0.\square \times 4.\square = 0.\square 3$

101. $0.0\square \times 0.0\square = 0.003$

102. $0.\square 5 \times 0.0\square = 0.03$

103. $0.3\square \times 0.0\square = 0.007$

104. ★ $0.\square\square\square \times 0.\square = 0.7$

105. ★ $1.\square \times 0.\square\square\square = 0.04$