1.5 Expanded Form and Scientific Notation

▶ **GOAL:** Express and compare numbers using expanded form and scientific notation.

1. Fill in the blanks to express each number in scientific notation.

   a) $821 = 8.21 \times 10^{\underline{}}$

   b) $4385 = 4.385 \times 10^{\underline{}}$

   c) $625.7 = 6.257 \times 10^{\underline{}}$

   d) $8\,500\,000 = 8.5 \times 10^{\underline{}}$

2. Fill in each blank with the correct number.

   a) $847 = 8 \times \underline{} + 4 \times \underline{} + 7 \times \underline{}$

   b) $4956 = 4 \times \underline{} + 9 \times \underline{} + 5 \times \underline{} +$
   $6 \times \underline{}$

   c) $208 = \underline{} \times 10^2 + \underline{} \times 10 + \underline{} \times 1$

   d) $\underline{} = 4 \times 10^2 + 3 \times 10$

3. Fill in the blanks in the chart.

	Standard form	Expanded form	Scientific notation
a)	250	$2 \times 10^2 + 5 \times 10$	2.5×10^2
b)		$3 \times 10^3 + 4 \times 10^2 + 8 \times 10 + 1 \times 1$	
c)			7.11×10^3
d)	9854		
e)			8.803×10^4
f)	10 772		
g)		$1 \times 10^5 + 9 \times 10^3 + 5 \times 1$	
h)			6.03×10^4

4. Write < or > to make each number sentence true.

   a) 4.2×10^2 _____ 5000

   b) $3 \times 10^5 + 2 \times 10 + 4 \times 1$ _____ $49\,877$

   c) 7.73×10^4 _____ $6 \times 10^3 + 5 \times 10^2 + 7 \times 1$