7. Find the product. \((\text{in sci not.})\)
\((1.9 \times 10^3)(4.5 \times 10^3)\)

8. Find the quotient. \((\text{in sci not.})\)
\[
\begin{align*}
2.89 \times 10^2 \\
3.4 \times 10^{-1}
\end{align*}
\]

9. Mohammed copied this problem into his notebook.
\((3.4 \times 10^3)(3.8 \times 10^{-9})\)

A. Use the associative and commutative properties to rearrange the factors.

B. Find the product. Write the product in standard form.

10. Find the quotient. \((\text{in sci. not.})\)
\[
\begin{align*}
6.85 \times 10^5 \\
\hline
2.5 \times 10
\end{align*}
\]
NUMBERS AND OPERATIONS

Scientific Notation

M8N1.j Express and use numbers in scientific notation.

Select the best answer for each question.

1. The temperature of the Sun's surface is about 5,500°C. Scientists believe that the temperature at the center of the Sun is 270 times hotter. What is the temperature at the center of the Sun using scientific notation?
   A. \(1.485 \times 10^3\) °C
   B. \(1.485 \times 10^5\) °C
   C. \(1.485 \times 10^9\) °C
   D. \(1.498 \times 10^9\) °C

2. Large quantities of cloth are measured in bolts. A fabric store received 8 bolts of a popular patterned cloth. This amount of cloth is equivalent to \(8.0 \times 10^2\) yards of cloth. Which expression represents this number in standard form?
   A. 0.008 yards
   B. 0.08 yards
   C. 800 yards
   D. 8,000 yards

3. At the last census, there were approximately six billion, three hundred ninety-two million people in the world. Which shows that number written in scientific notation?
   A. \(6.392 \times 10^7\)
   B. \(6.392 \times 10^8\)
   C. \(6.392 \times 10^9\)
   D. \(6.392 \times 10^{10}\)

4. The chart shows the average distance of some planets from the Sun.

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance in Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>36,000,000</td>
</tr>
<tr>
<td>Mars</td>
<td>141,000,000</td>
</tr>
<tr>
<td>Jupiter</td>
<td>480,000,000</td>
</tr>
</tbody>
</table>

Which expression represents in scientific notation the distance from Jupiter to the Sun?
   A. \(4.8 \times 10^6\)
   B. \(4.8 \times 10^7\)
   C. \(4.8 \times 10^8\)
   D. \(48.0 \times 10^7\)

5. What is 64,000,000 in scientific notation?
   A. \(6.4 \times 10^6\)
   B. \(6.4 \times 10^7\)
   C. \(64 \times 10^7\)
   D. \(640 \times 10^7\)

6. Two units used to measure land are square meters and square kilometers. One square meter equals 0.000001 square kilometer. Which expression represents this number in scientific notation?
   A. \(1.0 \times 10^{-6}\)
   B. \(1.0 \times 10^{-5}\)
   C. \(1.0 \times 10^{-4}\)
   D. \(1.0 \times 10^{-6}\)