Room for Shoes

Shoe Locker is organizing their shoe display. They would like to fit their new arrival of shoes in one row along the wall.

- Each pair of shoes takes up 0.8 meters of space.
- What is the **minimum length** of wall space needed to fit all 15 pairs of new shoes?

Show and justify your thinking using pictures, words, and symbols.
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Pair = 2

Pair = 0.8

\[0.8 \times 15 = \text{answer}\]

Teacher Note:
Student stated, "I know 0.8 (5) times is 4, and I know there are 3 more 5's in 15, so \[4 \times 3 = 12\]."

12 meters
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```
0.8
0.8
0.8
0.8
0.8
0.8
0.8
```

\[ \begin{align*}
4 \cdot 0.8 &= 3.2 \\
4 \cdot 0.8 &= 3.2 \\
4 \cdot 0.8 &= 3.2 \\
4 \cdot 0.8 &= 3.2 \\
4 \cdot 0.8 &= 3.2 \\
\hline
12 &\quad 0 \\
\end{align*} \]

12 meters
## Possible Graphic Organizers

### UPSE Problem Solving Mat

<table>
<thead>
<tr>
<th>UNDERSTAND (What do I know?)</th>
<th>PLAN (What strategy will I use?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 pairs is the lowest</td>
<td>0.8 x 15 = 4 x 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOLVE</th>
<th>EXPLAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.8 is how much a shoe is</td>
</tr>
<tr>
<td>0.8</td>
<td>16 shoes is the least.</td>
</tr>
<tr>
<td>0.8</td>
<td>0.8 x 15 = 12</td>
</tr>
<tr>
<td>+ 0.8</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>+ 4.0</td>
<td></td>
</tr>
<tr>
<td><strong>12 meters</strong></td>
<td></td>
</tr>
</tbody>
</table>
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Show and justify your thinking using pictures, words, and symbols.

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
```

So if there is 1 row then the length is 12 meters.
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Show and justify your thinking using pictures, words, and symbols.

\[
\frac{8}{10} \times 15 = 12 = 0.8 \times 15 = 12m
\]

5 m shoes

\[
0.8
\]

0.8

0.6

0.4
**Possible Graphic Organizers**

**UPSE Problem Solving Mat**

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<thead>
<tr>
<th>UNDERSTAND (What do I know?)</th>
<th>PLAN (What strategy will I use?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>That there are 0.8 meter of space and there are 15 shoes</td>
<td>I am going to do 0.8 \times 15.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOLVE</th>
<th>EXPLAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8 \times 15 = 12 length</td>
<td>I did 0.8 \times 15 and 12. My product is my product so they need 12 meters.</td>
</tr>
</tbody>
</table>

My answer: 12 meters
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Show and justify your thinking using pictures, words, and symbols.

\[
\begin{array}{c}
0.8 \\
8 \\
10 \\
80 \\
100 \\
\end{array} \quad \begin{array}{c}
15 \\
36 \text{ in} \quad 1 \text{ meter} \\
\end{array}
\]

\[
\begin{array}{c}
1.0 \times 0.8 \\
0.8 \times 5 \\
0.80 \times 0.40 \\
1.20 \\
\end{array}
\]