Converting Customary Units of Length

How to change a length measurement from one unit to another:

Converting a length measurement from a smaller unit to a larger unit

Think: If I measure the same length using a larger unit, I will need a smaller number of units.

Operation: Divide.

You know 3 ft = 1 yd.

Find \(6 \div 3\); \(6 \text{ ft} = 2 \text{ yd}\)

Converting a length measurement from a larger unit to a smaller unit

Think: If I measure the same length using a smaller unit, I will need a larger number of units.

Operation: Multiply.

You know 1 ft = 12 in.

Find \(2 \times 12\); \(2 \text{ ft} = 24 \text{ in.}\)

Relationships Among Customary Units of Length

<table>
<thead>
<tr>
<th>Inch</th>
<th>Foot</th>
<th>Yard</th>
<th>Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 in.</td>
<td>1 ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 in.</td>
<td>3 ft</td>
<td>1 yd</td>
<td></td>
</tr>
<tr>
<td>5,280 ft</td>
<td></td>
<td>1,760 yd</td>
<td>1 mi</td>
</tr>
</tbody>
</table>

Complete.

1. \(5 \text{ ft} = \underline{60} \text{ in.}\)
2. \(3 \text{ mi} = \underline{18,000} \text{ ft}\)
3. \(108 \text{ in.} = \underline{9} \text{ ft}\)
4. \(72 \text{ in.} = \underline{6} \text{ yd}\)
5. \(2 \text{ ft 3 in.} = \underline{25} \text{ in.}\)
6. \(45 \text{ in.} = \underline{15} \text{ yd 6} \text{ in.}\)

7. Which is the greater length, 2 yards or 5 feet? \(5 \text{ ft}\)

8. **Estimation** A creek runs along a distance of 16,300 feet. About how many miles long is the creek? \(3 \text{ mi}\)