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| **The Pool Patio- 6.NS.1** |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of multiplication and division to divided fractions by fractions.** |
| **Standard(s)** | **6.NS.1** Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?. |
| **Materials** | Activity sheet |
| **Task** | **The Pool Patio**The neighborhood pool is square and has an area of 1,600 square yards. The width of the patio is 2/3 the width of the pool. The patio has a total area of 273 and 1/3 square yards. Part 1: What is the length of the patio?Part 2:Write an explanation of how you solved the problem.  |

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| **Rubric** |
| **Level I** | 1. **Level II**
 | **Level III** |
| * Student uses inappropriate solution strategy and does not get the correct answer.
 | 1. Not Yet Proficient
* There are one or two errors.
 | Proficient in Performance * Accurately solves problem
* Part 1: The pool is 40 yards on each side. The width of the patio is 80/3 yards. In order to find the length of the patio: 273 and 1/3 divided by 80/3 or 820/3 divided by 80/3. This equals 10 and 1/4 yards.
* Part 2: The explanation is clear and accurate.
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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| 3. Constructs viable arguments and critiques the reasoning of others. |
| **4. Models with mathematics.** |
| 5. Uses appropriate tools strategically. |
| 6. Attends to precision. |
| 7. Looks for and makes use of structure. |
| **8. Looks for and expresses regularity in repeated reasoning.** |

**The Pool Patio**

The neighborhood pool is square and has an area of 1,600 square yards. The width of the patio is 2/3 the width of the pool. The patio has a total area of 273 and 1/3 square yards.

Part 1:

What is the length of the patio?

Part 2:

Write an explanation of how you solved the problem.