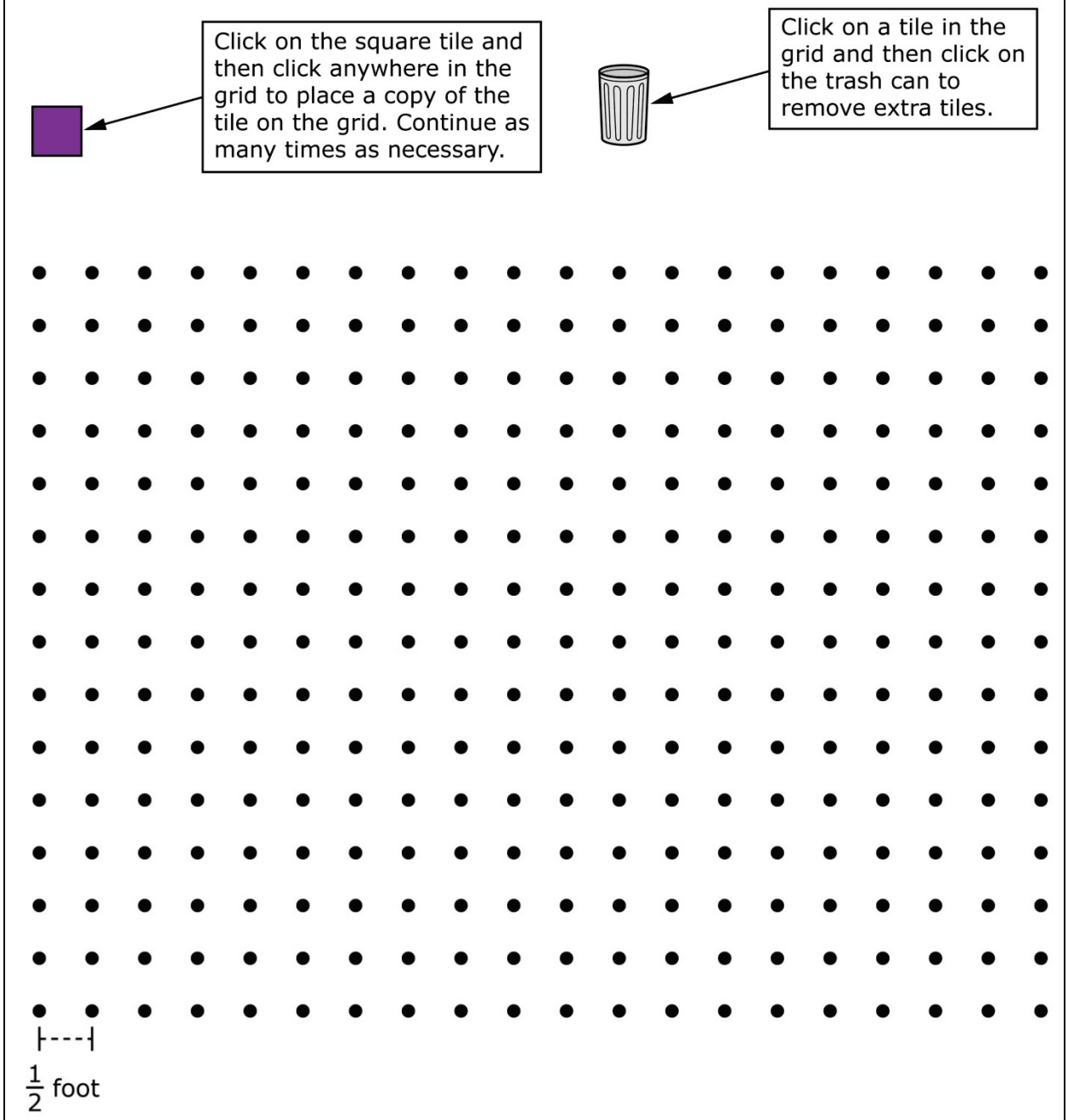
MAT.05.TE.2.000NF.A.003 Claim 2

Sample Item ID:	MAT.05.TE.2.000NF.A.003
Grade:	05
Primary Claim:	**Claim 2: Problem Solving** Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.
Secondary Claim(s):	Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Primary Content Domain:	Numbers and Operations—Fractions
Secondary Content Domain(s):	
Assessment Target(s):	2 A: Apply mathematics to solve well-posed problems in everyday life, society, and the workplace. 1 F: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Standard(s):	5.NF.4, 5.NF.6
Mathematical Practice(s):	1, 2, 4, 5
DOK:	2
Item Type:	TE
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	Requires both TE tiling and AI scoring.

Gregory is installing tile on a rectangular floor.

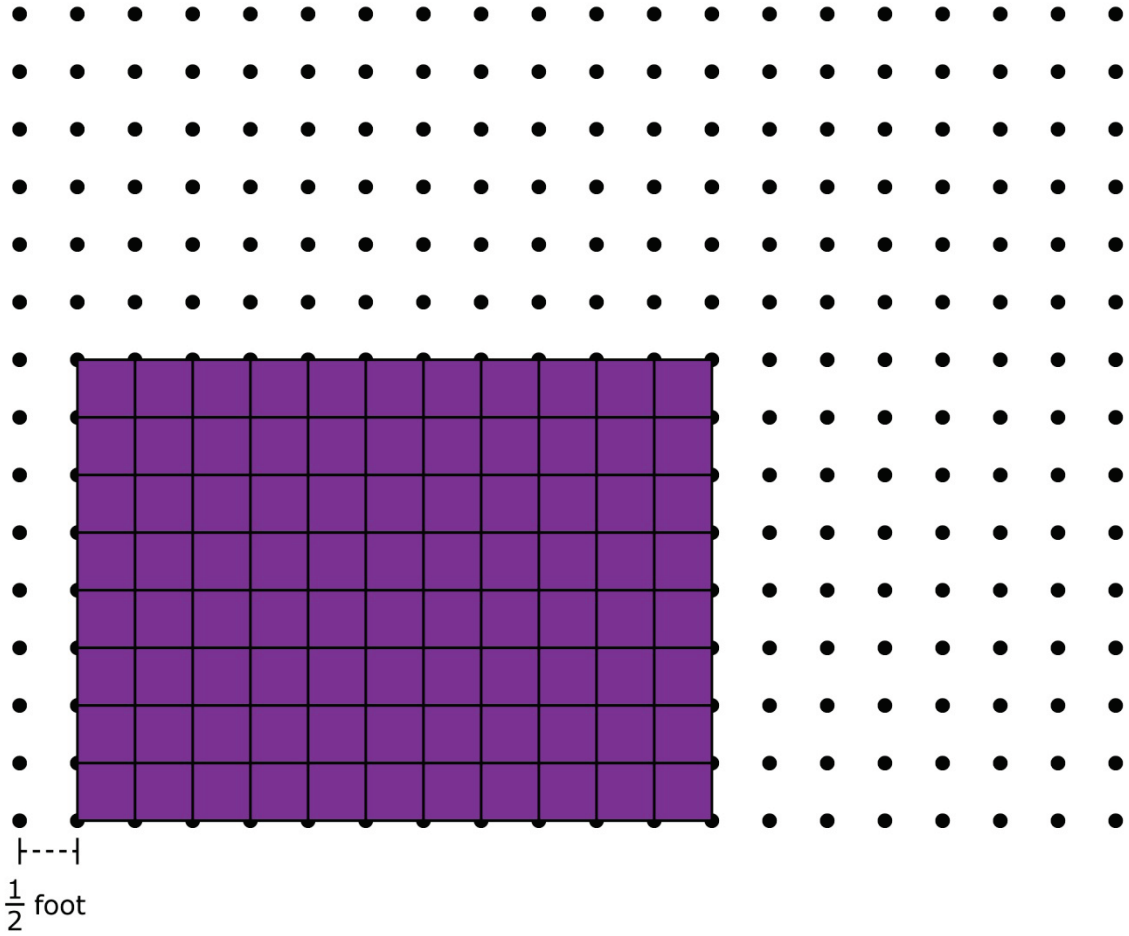
- He is using square tiles.
- The length of a side of each tile is $\frac{1}{2}$ foot.
- The area of the floor is 22 square feet.
- The width of the floor is 4 feet.

Use the grid to model the rectangular floor that Gregory is installing.



What is the **length**, in feet, of the floor?

Sample Top-Score Response:



What is the length, in feet, of the floor?

$5\frac{1}{2}$ or 5.5

Scoring Rubric:

Responses to this item will receive 0-2 points, based on the following:

2 points: Student thoroughly understands the relationship between area and its dimensions. Can model a rectangular floor that has an area of 22 square feet and identify the length of the floor as 5 ½ feet.

1 point: Student understands how length and width relate to area and can create a rectangular floor of 22 square feet, but incorrectly identifies the length of the floor. **OR** The student can determine the length of the floor by dividing 22 by 4, but cannot model the rectangular floor with the tiles.

0 points: Student shows little or no understanding of how length and width related to area of a rectangular floor when one dimension of the floor has a fractional value.