

Grade 5 - Area of Rectangles with Fractional Sides - Test

Common Core 5.NF.B.4b · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

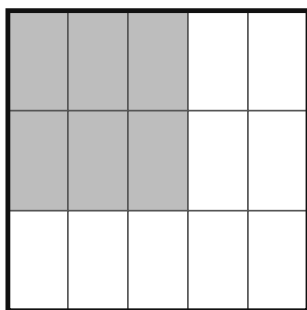
This test has 9 questions worth 20 points in all. It checks finding the area of rectangles with fractional side lengths by tiling and by multiplying (5.NF.B.4b). Show all work and write square units in every area. The test takes about 45 minutes.

About this test

- Grade: Grade 5
- Chapter: Area of Rectangles with Fractional Sides
- Standards: 5.NF.B.4b
- Time: 45 minutes
- Total: 20 points

Question 1 - Tiles in a unit square [2 pts]

A unit square is cut into 5 equal columns and 3 equal rows. The shaded rectangle is 3 tiles wide and 2 tiles tall.



A unit square with a shaded rectangle.

- What is the area of one tile? (1 point)
- What is the area of the shaded rectangle? (1 point)

Question 2 - Multiply the sides [2 pts]

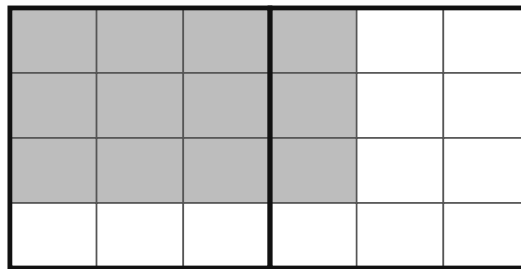
- a. Find the area of a rectangle that is $\frac{3}{8}$ foot long and $\frac{1}{4}$ foot wide. (1 point)
- b. Find the area of a rectangle that is $\frac{2}{3}$ yard long and $\frac{2}{3}$ yard wide. (1 point)

Question 3 - Mixed number sides [2 pts]

- a. Find the area of a rectangle that is $2\frac{1}{2}$ feet long and $\frac{1}{3}$ foot wide. (1 point)
- b. Find the area of a rectangle that is $1\frac{1}{2}$ inches long and $1\frac{3}{4}$ inches wide. (1 point)

Question 4 - Tiling two squares [3 pts]

A rectangle is $1\frac{1}{3}$ feet long and $\frac{3}{4}$ foot wide. It is shown on two unit squares that are each 1 foot by 1 foot.



Two unit squares side by side, each cut into 3 columns and 4 rows.

- a. What is the area of one small tile? (1 point)
- b. How many tiles does the rectangle cover? (1 point)
- c. What is the area of the rectangle? (1 point)

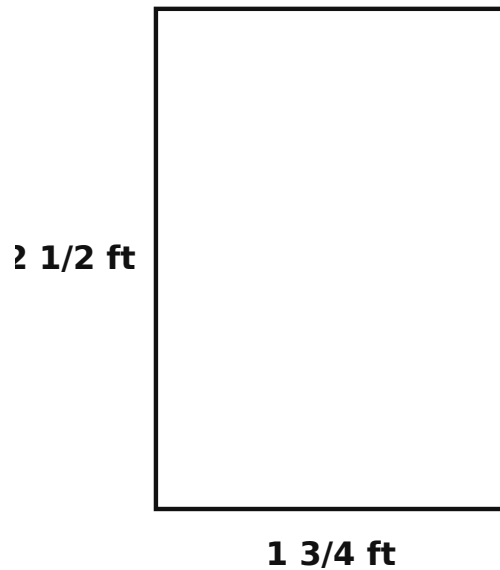
Question 5 - Square tile [2 pts]

A square tile has sides of length $\frac{5}{6}$ foot.

- a. Find the area of the tile. (1 point)
- b. Is the area of the tile greater than or less than its side length? Explain. (1 point)

Question 6 - Poster board [2 pts]

A poster board is $1\frac{3}{4}$ feet wide and $2\frac{1}{2}$ feet long.



The poster board.

- a. Find the area of the poster board. (1 point)
- b. A second poster is 2 feet by 2 feet. Which poster has the greater area? (1 point)

Question 7 - Closet carpet [2 pts]

Mei's closet floor is $2\frac{1}{4}$ feet by $1\frac{1}{3}$ feet. Carpet costs \$6 for each square foot.

- a. Find the area of the closet floor. (1 point)
- b. Find the cost of carpet to cover the floor. (1 point)

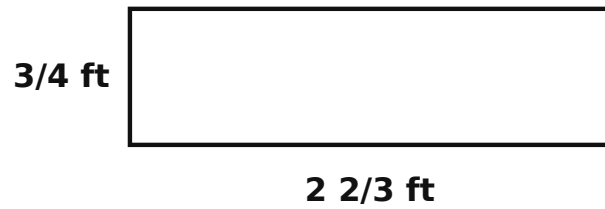
Question 8 - Area and perimeter [2 pts]

A rectangle is $\frac{2}{3}$ yard long and $\frac{1}{4}$ yard wide.

- a. Find the area. (1 point)
- b. Find the perimeter. (1 point)

Question 9 - Painted banner [3 pts]

Priya makes a banner that is $2\frac{2}{3}$ feet long and $\frac{3}{4}$ foot wide. She paints $\frac{5}{8}$ of the banner red.



Priya's banner.

- a. Find the area of the whole banner. (1 point)
- b. Find the area that is painted red. (1 point)
- c. Find the area that is not red. (1 point)