Area of a Rectangle

You have learned how to multiply fractions by finding the area of a rectangle.

What is the area of a horse pasture that is $\frac{3}{8}$ mile long by $\frac{2}{3}$ mile wide?

You can draw the pasture on a 24 × 24 grid.

$\frac{3}{8} = \frac{9}{24}$ Change each length and width to 24ths.
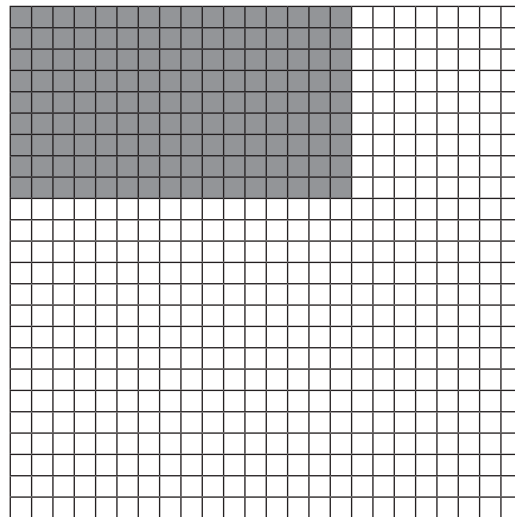
$\frac{2}{3} = \frac{16}{24}$

Area = length × width

$\frac{2}{3} \times \frac{3}{8} =$

$\frac{16}{24} \times \frac{9}{24} = \frac{144}{576}$

$\frac{144}{576} = \frac{1}{4}.$

So, the pasture has an area of $\frac{1}{4}$ square mile.

$\frac{2}{3} = \frac{16}{24}$

$\frac{3}{8} = \frac{9}{24}$

For questions **1-2,** find each area.

1. a rectangle with sides of lengths $\frac{1}{6}$ yard and $\frac{3}{4}$ yard _____

2. a square with sides of lengths $\frac{2}{5}$ inch _____

3. **Writing to Explain** Is $\frac{5}{8}$ sq. in. a reasonable answer for the area of a rectangle with lengths of $\frac{1}{8}$ inch by 5 inches?

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Area of a Rectangle

Find each area.

1. a rectangle with sides of lengths $\frac{4}{5}$ foot and $\frac{1}{2}$ foot _____

2. a rectangle with sides of lengths $\frac{1}{3}$ yard and $\frac{3}{4}$ yard _____

3. a rectangle with sides of lengths $\frac{2}{3}$ foot and $\frac{1}{3}$ foot _____

4. a rectangle with sides of lengths $\frac{5}{6}$ inch and $\frac{1}{3}$ inch _____

5. a square with sides of length $\frac{5}{8}$ inch _____

6. a rectangle with a length of 3 inches and a width of $\frac{1}{8}$ inch _____

7. a rectangle with a length of $\frac{1}{5}$ yard and a width of $\frac{2}{3}$ yard _____

8. a rectangle with a length of $\frac{4}{9}$ foot and a width of 2 feet _____

9. Mrs. Henley built a cage for her bird. She wanted to cover the bottom of the cage with newspaper. If the cage is $\frac{1}{4}$ yard by $\frac{1}{2}$ yard, what is the area that needs to be covered?

A $\frac{1}{8}$ sq. yd   **B** $\frac{1}{4}$ sq. yd   **C** $\frac{1}{2}$ sq. yd   **D** 8 sq. yd

10. Writing to Explain Tariq and Marie each multiplied $\frac{1}{8}$ inch $\times$ $\frac{5}{8}$ inch. Tariq got $\frac{5}{8}$ sq. in. and Marie got $\frac{5}{64}$ sq. in. Which student found the correct area?
How do you know?

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