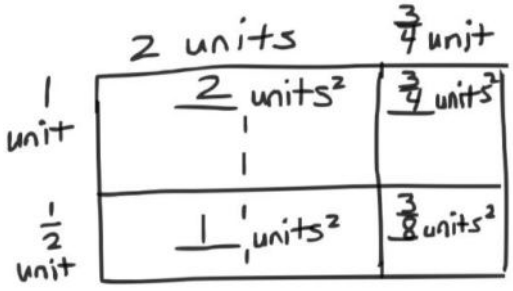
Name _____ Date _____

1. Kristen tiled the following rectangles using square units. Sketch the rectangles, and find the areas. Then confirm the area by multiplying. Rectangle A has been sketched for you.

a. Rectangle A:



Rectangle A is

$2\frac{3}{4}$ units long × $1\frac{1}{2}$ units wide

Area = $4\frac{1}{8}$ units²

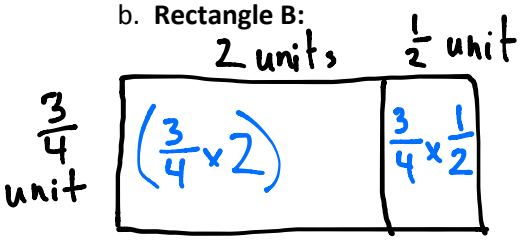
$2\frac{3}{4} \times 1\frac{1}{2} = (1\times2) + (1\times\frac{3}{4}) + (\frac{1}{2}\times2) + (\frac{1}{2}\times\frac{3}{4})$

$= 2 + \frac{3}{4} + \frac{2}{2} + \frac{3}{8}$

$= 3 + \frac{3}{4}\times\frac{2}{2} + \frac{3}{8}$

$= 3 + \frac{6}{8} + \frac{3}{8} = 3\frac{9}{8} = 4\frac{1}{8}$

b. **Rectangle B:**



Rectangle B is

$2\frac{1}{2}$ units long × $\frac{3}{4}$ unit wide

Area = $1\frac{7}{8}$ units²

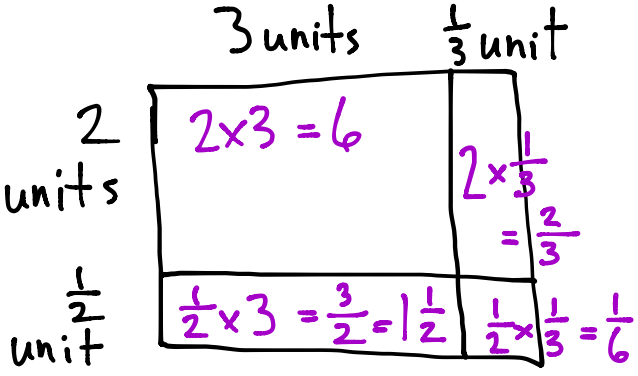
$2\frac{1}{2} \times \frac{3}{4}$

$= (2\times\frac{3}{4}) + (\frac{1}{2}\times\frac{3}{4})$

$= \frac{6}{4}\times\frac{2}{2} + \frac{3}{8}$

$= \frac{12}{8} + \frac{3}{8} = \frac{15}{8} = 1\frac{7}{8}$

c. **Rectangle C:**



Rectangle C is

$3\frac{1}{3}$ units long × $2\frac{1}{2}$ units wide

Area = $8\frac{1}{3}$ units²

$3\frac{1}{3} \times 2\frac{1}{2}$

$= (2\times3) + (2\times\frac{1}{3}) + (\frac{1}{2}\times3) + (\frac{1}{2}\times\frac{1}{3})$

$= 6 + \frac{2}{3}\times\frac{2}{2} + \frac{3}{2}\times\frac{3}{3} + \frac{1}{6}$

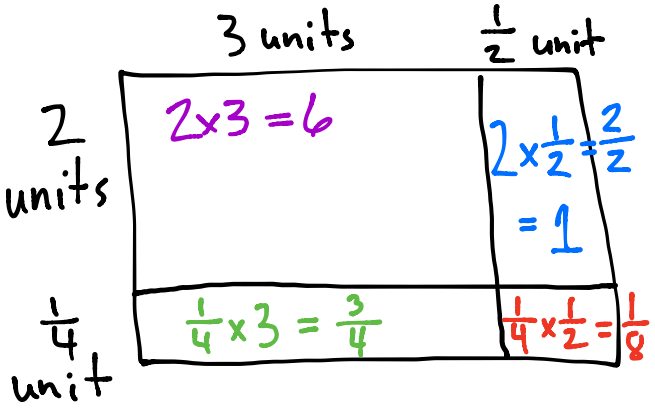
$= 6 + \frac{4}{6} + \frac{9}{6} + \frac{1}{6}$

$= 6\frac{14}{6} = 6 + 2\frac{2}{6} = 8\frac{2}{6} = 8\frac{1}{3}$

$\frac{14}{6}$

$\frac{12}{6}$ $\frac{2}{6}$

d. **Rectangle D:**



Rectangle D is

$3\frac{1}{2}$ units long × $2\frac{1}{4}$ units wide

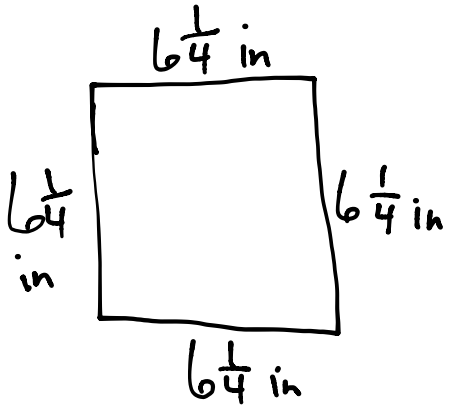
Area = $7\frac{7}{8}$ units^2

$3\frac{1}{2} \times 2\frac{1}{4}$

$= 6 + 1 + \frac{3}{4} \times \frac{2}{2} + \frac{1}{8}$

$= 6 + 1 + \frac{6}{8} + \frac{1}{8} = 7\frac{7}{8}$

2. A square has a perimeter of 25 inches. What is the area of the square?



$6\frac{1}{4}$
4 | 25
-24
1

The square has an area of $39\frac{1}{16}$ in^2.

Area = l x w

$= 6\frac{1}{4} \times 6\frac{1}{4}$

$= (6 \times 6) + (6 \times \frac{1}{4}) + (\frac{1}{4} \times 6) + (\frac{1}{4} \times \frac{1}{4})$

$= 36 + \frac{6}{4} + \frac{6}{4} + \frac{1}{16}$

$= 36 + \frac{12}{4} + \frac{1}{16}$

$= 36 + 3 + \frac{1}{16}$

$= 39\frac{1}{16}$