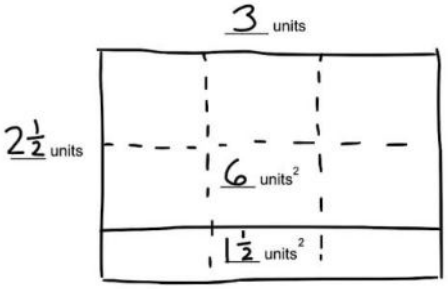
Name _____ Date _____

1. John tiled some rectangles using square unit. Sketch the rectangles if necessary, fill in the missing information, and then confirm the area by multiplying.

a. **Rectangle A:**



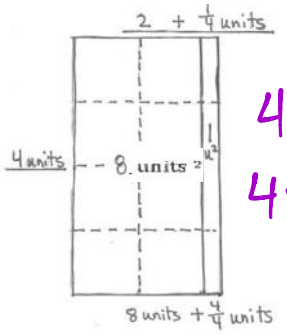
Rectangle A is

3 units long 2½ units wide

Area = 7½ units²

$6u^2 + 1\frac{1}{2}u^2 = 7\frac{1}{2}u^2$

b. **Rectangle B:**



$4 \times 2 = 8$

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

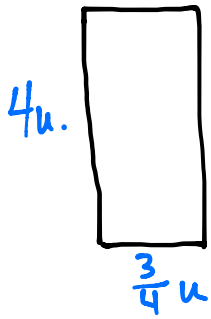
$8 + 1 = 9$

Rectangle B is

2 ¼ units long 4 units wide

Area = 9 units²

c. **Rectangle C:**



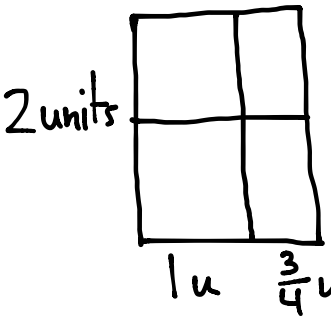
$4 \times \frac{3}{4} = \frac{12}{4} = 3$

Rectangle C is

¾ units long 4 units wide

Area = 3 units²

d. **Rectangle D:** $2 \times 1\frac{3}{4}$



$2 \times 1 = 2$

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

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

Rectangle D is

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

Area = $3\frac{1}{2}$ units^2

2. Rachel made a mosaic from different color rectangular tiles. Three tiles measured $3\frac{1}{2}$ inches × 3 inches. Six tiles measured 4 inches × $3\frac{1}{4}$ inches. What is the area of the whole mosaic in square inches?

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

$= 9 + \frac{3}{2}$

$= 9 + 1\frac{1}{2}$

$= 10\frac{1}{2}$ in^2

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

$= 12 + \frac{4}{4}$

$= 12 + 1$

$= 13$ in^2

$(3 \times 10\frac{1}{2}$ in$^2) + (6 \times 13$ in$^2)$

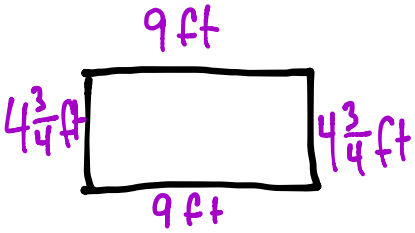
$= 30 + \frac{3}{2} + 78$

$= 108 + 1\frac{1}{2}$

$= 109\frac{1}{2}$ in^2

The area of the whole mosaic is $109\frac{1}{2}$ in^2.

3. A garden box has a perimeter of $27\frac{1}{2}$ feet. If the length is 9 feet, what is the area of the garden box?



$27\frac{1}{2} - 18 = 9\frac{1}{2}$

9 ft × $4\frac{3}{4}$ ft

$= (9 \times 4) + (9 \times \frac{3}{4})$

$= 36 + \frac{27}{4}$

$= 36 + 6\frac{3}{4}$

$= 42\frac{3}{4}$ ft^2

The area of the box is $42\frac{3}{4}$ ft^2.