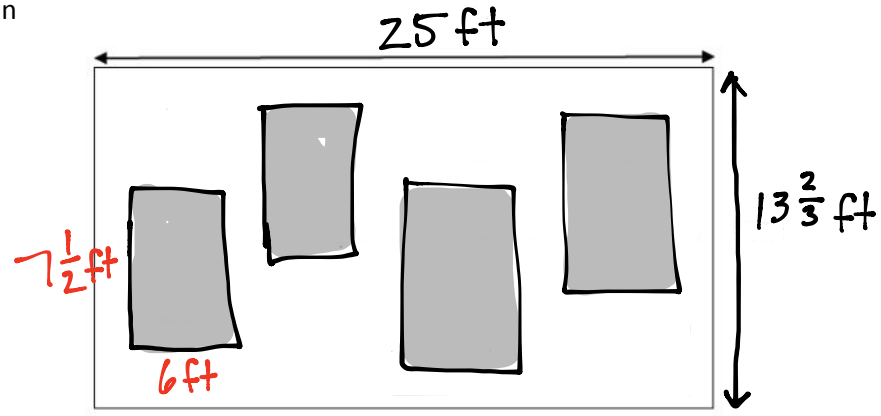
Name _____ Date _____

1. Mr. Albano wants to paint menus on the wall of his café in chalkboard paint. The grey area below shows where the rectangular menus will be. Each menu will measure 6 feet wide and $7\frac{1}{2}$ ft long.



a. How many square feet of menu space will Mr. Albano have?

$6\text{ ft} \times 7\frac{1}{2}\text{ ft} = (6\times7)+(6\times\frac{1}{2})$
$= 42 + \frac{6}{2}$
$= 42 + 3$
$= 45\text{ ft}^2$

$4 \times 45\text{ ft}^2 = 180\text{ ft}^2$

Total space for menus = 180 ft^2

b. What is the area of wall space that is not covered by chalkboard paint?

Big board: $25 \times 13\frac{2}{3}$
$= (25\times13)+(25\times\frac{2}{3})$
$= 325 + \frac{50}{3}$
$= 325 + 16\frac{2}{3} = 341\frac{2}{3}\text{ ft}^2$

$341\frac{2}{3} - 180 = 161\frac{2}{3}\text{ ft}^2$

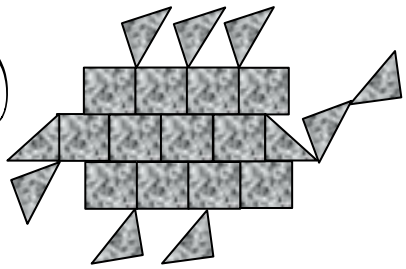
Area not covered = $161\frac{2}{3}\text{ ft}^2$

2. Mr. Albano wants to put tiles in the shape of a dinosaur at the front entrance. He will need to cut some tiles in half to make the figure. If each square tile is $4\frac{1}{4}$ inches on each side, what will the total area of the figure be?

$4\frac{1}{4}\text{ in} \times 4\frac{1}{4}\text{ in} = 18\frac{1}{16}\text{ in}^2$ (one tile)

	4	$\frac{1}{4}$
4	16	1
$\frac{1}{4}$	1	$\frac{1}{16}$

$17 \times 18\frac{1}{16}$
$= (17\times18)+(17\times\frac{1}{16})$
$= 306 + \frac{17}{16}$
$= 306 + 1\frac{1}{16}$
$= 307\frac{1}{16}\text{ in}^2$ ← Total area



3. A-Plus Glass is making windows for a new house that is being built. The box shows the list of sizes they must make.

15 windows $4\frac{3}{4}$ ft long and $3\frac{3}{5}$ ft wide
7 windows $2\frac{4}{5}$ ft wide and $6\frac{1}{2}$ ft long

How many square feet of glass will they need?

$4\frac{3}{4} \times 3\frac{3}{5} = \frac{19}{4} \times \frac{18}{5} = \frac{171}{10} = 17\frac{1}{10}$ ft^2

$15 \times 17\frac{1}{10} = (15 \times 17) + (15 \times \frac{1}{10}) = 255 + \frac{15}{10} = 255 + 1\frac{5}{10} = 256\frac{1}{2}$ ft^2

$2\frac{4}{5} \times 6\frac{1}{2} = \frac{14}{5} \times \frac{13}{2} = \frac{91}{5} = 18\frac{1}{5}$ ft^2

$7 \times 18\frac{1}{5} = (7 \times 18) + (7 \times \frac{1}{5}) = 126 + \frac{7}{5} = 126 + 1\frac{2}{5} = 127\frac{2}{5}$ ft^2

$256\frac{1}{2} + 127\frac{2}{5} = 256\frac{5}{10} + 127\frac{4}{10} =$ $383\frac{9}{10}$ ft^2 is needed

4. Mr. Johnson needs to buy seed for his backyard lawn.

a. If the lawn measures $40\frac{4}{5}$ ft by $50\frac{7}{8}$ ft, how many square feet of seed will he need?

	50	$\frac{7}{8}$
40	2000	35
$\frac{4}{5}$	40	$\frac{28}{40}$

$= 2000 + 35 + 40 + \frac{28}{40}$

$= 2075\frac{28}{40}$

$= 2075\frac{7}{10}$ ft^2

He will need $2075\frac{7}{10}$ ft^2 of seed.

b. One bag of seed will cover 500 square feet if he sets his seed spreader to its lowest setting and 300 square feet if he sets the spreader to its highest setting. How many bags of seed will he need if he uses the highest setting? The lowest setting?

$300 \times 6 = 1{,}800$
$300 \times 7 = 2{,}100$
> At the lowest setting, he would need 7 bags.

$500 \times 4 = 2{,}000$
$500 \times 5 = 2{,}500$
> At the highest setting, he would need 5 bags.