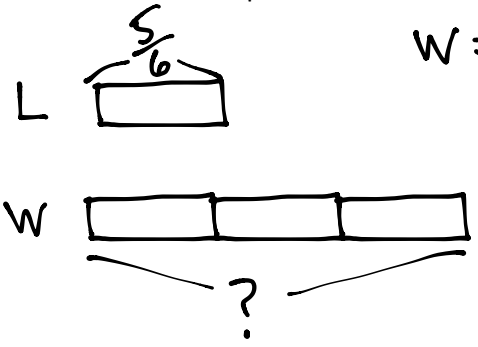
Name _____ Date _____

1. The width of a picnic table is 3 times its length. If the length is $\frac{5}{6}$ yd long, what is the area in square feet?



$W = 3 \times \frac{5}{6} = \frac{3 \times 5}{6} = \frac{5}{2} = 2\frac{1}{2}$ yd

Area $= \frac{5}{6} \times 2\frac{1}{2}$

$= \frac{5}{6} \times \frac{5}{2} = \frac{25}{12} = 2\frac{1}{12}$ yd^2

$= 18\frac{3}{4}$ ft^2

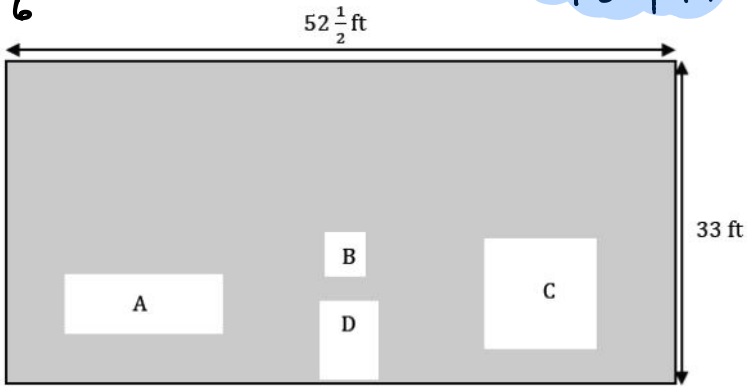
2. A painting company will paint this wall. The homeowner gives them the following dimensions:

Window A is $6\frac{1}{4}$ ft × $5\frac{3}{4}$ ft

Window B is $3\frac{1}{8}$ ft × 4 ft

Window C is $9\frac{1}{2}$ ft square

Door D is 8 ft × 4 ft



What is the area of the painted part of the wall?

Wall: $33 \times 52\frac{1}{2} = (33 \times 52) + (33 \times \frac{1}{2}) = 1716 + \frac{33}{2} = 1716 + 16\frac{1}{2} = 1732\frac{1}{2}$ ft^2

Window A: $6\frac{1}{4} \times 5\frac{3}{4} = \frac{25}{4} \times \frac{23}{4} = \frac{575}{16} = 35\frac{15}{16}$ ft^2

Window B: $3\frac{1}{8} \times 4 = (3 \times 4) + (\frac{1}{8} \times 4) = 12 + \frac{4}{8} = 12\frac{1}{2}$ ft^2

Window C: $9\frac{1}{2}$ ft^2

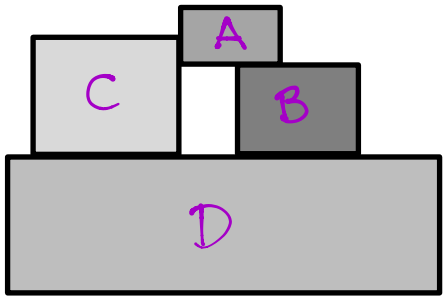
Door D: $8 \times 4 = 32$ ft^2

$35\frac{15}{16} + 12\frac{1}{2} + 9\frac{1}{2} + 32$

$= 89\frac{15}{16}$ ft^2

$1732\frac{1}{2} - 89\frac{15}{16} = 1732\frac{8}{16} - 89\frac{15}{16} = 1643\frac{8}{16} - \frac{15}{16} = 1642\frac{9}{16}$ ft^2

3. A decorative wooden piece is made up of four rectangles as shown to the right. The smallest rectangle measures $4\frac{1}{2}$ inches by $7\frac{3}{4}$ inches. If $2\frac{1}{4}$ inches is added to each dimension as the rectangles get larger, what is the total area of the entire piece?



A: $4\frac{1}{2} \times 7\frac{3}{4} = \frac{9}{2} \times \frac{31}{4} = \frac{279}{8} = 34\frac{7}{8}$ in^2

B: $6\frac{3}{4} \times 10 = (6 \times 10) + (\frac{3}{4} \times 10) = 60 + \frac{30}{4} = 60 + 7\frac{1}{2} = 67\frac{1}{2}$ in^2

C: $9 \times 12\frac{1}{4} = (9 \times 12) + (9 \times \frac{1}{4}) = 108 + \frac{9}{4} = 108 + 2\frac{1}{4} = 110\frac{1}{4}$ in^2

D: $11\frac{1}{4} \times 14\frac{1}{2} = \frac{45}{4} \times \frac{29}{2} = \frac{1305}{8} = 163\frac{1}{8}$ in^2

Total:

$34\frac{7}{8} + 67\frac{1}{2} + 110\frac{1}{4} + 163\frac{1}{8} = 374 + \frac{7}{8} + \frac{1}{8} + \frac{1}{2} + \frac{1}{4}$

$= 375\frac{3}{4}$ in^2

The total area is $375\frac{3}{4}$ in^2.