

Array Multiplication of Fractions**Array Multiplication**

1. You are tiling your rectangular floor and you can fit 5 tiles across and 4 tiles down
  - a. Use colored tiles to illustrate a solution to this problem. Draw a picture of this strategy below. Be precise!

- b. You re-measure the floor and realize that the size of the rectangle is actually  $3\frac{5}{6}$  by  $4\frac{1}{2}$ . Adjust your diagram above to show how many tiles are actually needed.

2. A child multiplies  $3\frac{5}{6} \times 4\frac{1}{2}$  by doing the following:

$$\begin{aligned}
 3\frac{5}{6} \times 4\frac{1}{2} & \\
 &= 3\frac{5}{6} \times \left(4 + \frac{1}{2}\right) \\
 &= 3\frac{5}{6} \times 4 + 3\frac{5}{6} \times \frac{1}{2} \\
 &= \left(3 + \frac{5}{6}\right) \times 4 + \left(3 + \frac{5}{6}\right) \times \frac{1}{2} \\
 &= (3 \times 4) + \left(\frac{5}{6} \times 4\right) + \left(3 \times \frac{1}{2}\right) + \left(\frac{5}{6} \times \frac{1}{2}\right)
 \end{aligned}$$

Connect the partial products to your diagram above. What property is this child using?