Each rectangle represents 1.

1. The shaded unit fractions have been decomposed into smaller units. Express the equivalent fractions in a number sentence using multiplication. The first one has been done for you.

   a. \[
   \frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}
   \]
   
   b. \[
   \frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}
   \]
   
   c. \[
   \frac{1}{2} = \frac{1 \times 6}{2 \times 6} = \frac{6}{12}
   \]
   
   d. \[
   \frac{1}{2} = \frac{1 \times 7}{2 \times 7} = \frac{7}{14}
   \]

2. Decompose the shaded fractions into smaller units using the area models. Express the equivalent fractions in a number sentence using multiplication. 

   a. \[
   \frac{1}{3} = \frac{1 \times 3}{3 \times 3} = \frac{3}{9}
   \]
   
   b. \[
   \frac{1}{4} = \frac{1 \times 4}{4 \times 4} = \frac{4}{16}
   \]
   
   c. \[
   \frac{1}{5} = \frac{1 \times 3}{5 \times 3} = \frac{3}{15}
   \]
   
   d. \[
   \frac{1}{8} = \frac{1 \times 2}{8 \times 2} = \frac{2}{16}
   \]

Answers may vary.
3. Draw three different area models to represent \( \frac{1}{4} \) fourth by shading.
Decompose the shaded fraction into (a) eighths, (b) twelfths, and (c) sixteenths.
Use multiplication to show how each fraction is equivalent to \( \frac{1}{4} \) fourths.

a. \[
\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}
\]

b. \[
\frac{1}{4} = \frac{1 \times 3}{4 \times 3} = \frac{3}{12}
\]

c. \[
\frac{1}{4} = \frac{1 \times 4}{4 \times 4} = \frac{4}{16}
\]