Problem Solving: Use Formulas

The Alvin Family is building a pool. The pool is 20 feet long, 12 feet wide, and 4 feet deep.

Use the perimeter formula to find the distance around the edge of the pool. Use the area formula to find the area at the bottom of the pool.

\[ P = 2 \times l + 2 \times w \]
\[ P = 2 \times 20 \, \text{ft} + 2 \times 12 \, \text{ft} \]
\[ P = 40 \, \text{ft} + 24 \, \text{ft} \]
\[ P = 64 \, \text{ft}. \]
The perimeter of the pool is 64 feet.

\[ A = l \times w \]
\[ A = 20 \, \text{ft} \times 12 \, \text{ft} \]
\[ A = 240 \, \text{square feet} \]
The area of the bottom of the pool is 240 square feet.

Use a formula to solve each problem. Show your work.

1. A pencil box is 12 inches long, 3 inches wide, and 2 inches deep. What is the area of the lid of the box?

2. Lucy wants to glue ribbon around a picture frame that is 8 inches wide and 10 inches long. How much ribbon will she need?

Writing Math Explain how to find the area of a square if you are only given the perimeter.