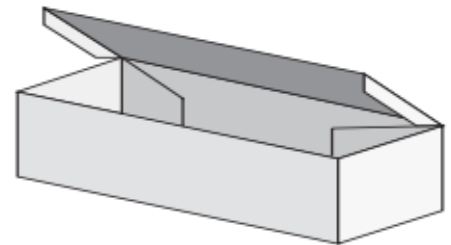
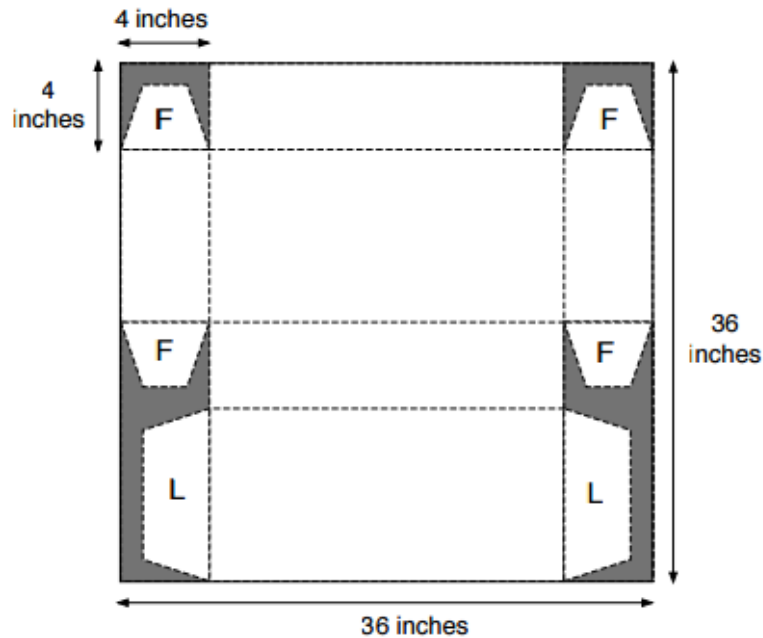


Warm - Up:

### Fruit Boxes

A grocer wants to sell fruit in boxes. He wants to make the boxes from square card 36 inches long and 36 inches wide as shown.



**(Diagrams not drawn to scale.)**

The shaded areas are cut away and the rest is folded along the dashed lines. The sides are folded up and stuck together using the four flaps marked F. The lid has two flaps, marked L, which are not glued.

1. Calculate the volume of the finished box. Show your work.

2. Suppose he starts with the same square of card, but changes the 4 inches to a different measurement. What is the largest volume he can make the box? Show your calculations.