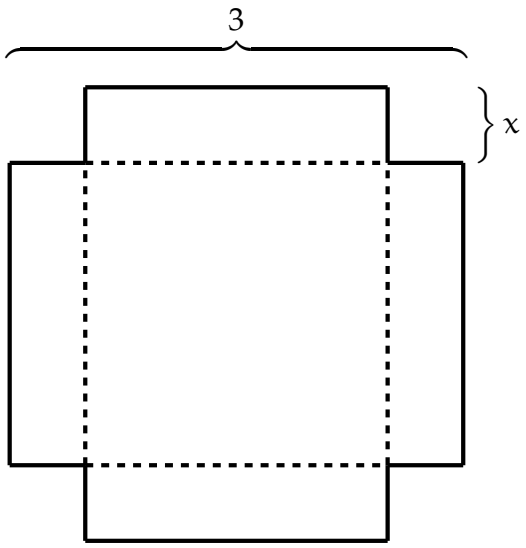
Day 17 Warm-up **Math 115** **May 10**

1. We start with a 3 ft by 3 ft cardboard square. We cut a square from each of the four corners and bend up the sides to form an open-topped box. Call the amount we cut off x.



   Write the volume of the resulting box as a function of x. What are upper and lower bounds on the value of x?

2. Let $f(x) = 2^x$. Find the exact values of the following.

   (a) $f(5) =$

   (b) $f(-4) =$

   (c) $\lim_{x \to \infty} f(x) =$

   (d) $\lim_{x \to -\infty} f(x) =$