1. An open-topped box is made from a flat piece of cardboard. Each side of the rectangular piece of carboard is folded up to make the sides of the box. Using an $8.5 \times 11$ inch piece of paper, decide how tall your box will be then fold the sides of the paper up. Tape the sides that meet at each corner together to construct the box.
2. Write an equation that predicts the volume of the box using the height you used for your box.
3. What is the volume of your box.
4. What is the maximum possible volume of a box using this piece of paper?

