



Analyzing Contexts and Models

Question: How many square inches of pizza will all the kids in our class eat in their lifetimes?

- What is the average amount of pizza someone eats in their life time?
 CiCi's Pizza poll estimated the average person eats 6,000 slices. (Reported by South West News Service on JAN. 12, 2015)
- How many square inches are in one slice of pizza?
 12 inch pizza.  $\pi 6^2 \approx 113 \text{ in}^2$
 $113 \div 8 \text{ slices} \approx 14 \text{ in}^2$
 18 inch pizza  $\pi 9^2 \approx 254 \text{ in}^2$
 $254 \div 12 \text{ slices} \approx 21 \text{ in}^2$
- How many people in this class? 23

$$6,000 \times 23 = 138,000$$

$$\begin{array}{r} 138,000 \\ - 6,000 \\ \hline 132,000 \end{array}$$

$$132,000 \times 14 = 1,848,000 \text{ in}^2$$

$$132,000 \times 21 = 2,772,000 \text{ in}^2$$

$$18 \text{ in} \geq x \geq 12 \text{ in}$$

$$254 \text{ in}^2 \geq x \geq 113 \text{ in}^2$$

$$21 \text{ in}^2 \geq x \geq 14 \text{ in}^2$$

$$2,772,000 \text{ in}^2 \geq x \geq 1,848,000 \text{ in}^2$$

The above sample model is adapted from student work found at <https://morethanmath.weebly.com/fermi-problem-student-work.html>