



**Discuss your expectations for student demonstration of quality work in defense of their mathematical argument for this problem.**

- **Strategy**
- **Units (e.g. people, minutes)**
- **Parameters (e.g. How long are the restaurants open?)**



### Possible Solutions:

$$\begin{array}{r} 310,000,000 \\ \times \quad .08 \\ \hline 24,800,000 \end{array}$$

$$\frac{24,800,000}{12,800} = 1937.5 \text{ people/day}$$

80.7 people/hour if open 24 hours  
1.3 people per minute

How long are the restaurants open?  
Can one person order for multiple people?

### Guiding Questions:

- Where is the math that justifies your position on the accuracy or inaccuracy of this information?
- What Standards for Mathematical Practice would you utilize to gain support for your position? Why?
- Where does this problem lead?
- What other information would you consider to justify your response?
  - How long is each store in the chain open? (12 hours, 24 hours)
  - Where is the store located? (Mall, business area, side road etc.)
  - Are all people able to get to the restaurant? (babies, people without a car, store is not located on a public transportation line etc.)
  - Is the restaurant accessible? (Handicap ramp, steps only entrance, etc.)
  - Are people placing orders for others besides/along with themselves?
- If you presented a problem like this to your students, what type of behaviors would you expect to see them demonstrate to show mathematical proficiency?