Lesson 3: More Costs of Running a Restaurant

Let's explore how much it costs to run a restaurant.

3.1: Are We Making Money?

1. Restaurants have many more expenses than just the cost of the food.

   a. Make a list of other items you would have to spend money on if you were running a restaurant.

   b. Identify which expenses on your list depend on the number of meals ordered and which are independent of the number of meals ordered.

   c. Identify which of the expenses that are independent of the number of meals ordered only have to be paid once and which are ongoing.

   d. Estimate the monthly cost for each of the ongoing expenses on your list. Next, calculate the total of these monthly expenses.

2. Tell whether each restaurant is making a profit or losing money if they have to pay the amount you predicted in ongoing expenses per month. Organize your thinking so it can be followed by others.

   a. Restaurant A sells 6,000 meals in one month, at an average price of $17 per meal and an average cost of $4.60 per meal.

   b. Restaurant B sells 8,500 meals in one month, at an average price of $8 per meal and an average cost of $2.20 per meal.

   c. Restaurant C sells 4,800 meals in one month, at an average price of $29 per meal and an average cost of $6.90 per meal.

3.   a. Predict how many meals your restaurant would sell in one month.

   b. How much money would you need to charge for each meal to be able to cover all the ongoing costs of running a restaurant?

4. What percentage of the cost of the ingredients is the markup on your meal?

3.2: Disposable or Reusable?

A sample of full service restaurants and a sample of fast food restaurants were surveyed about the average number of customers they serve per day.

full service restaurants

fast food restaurants
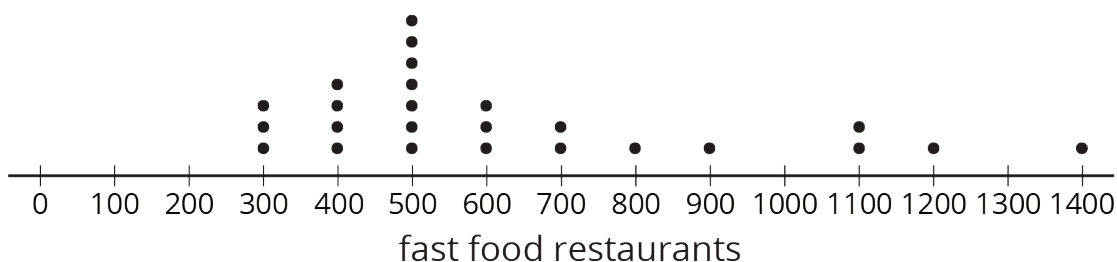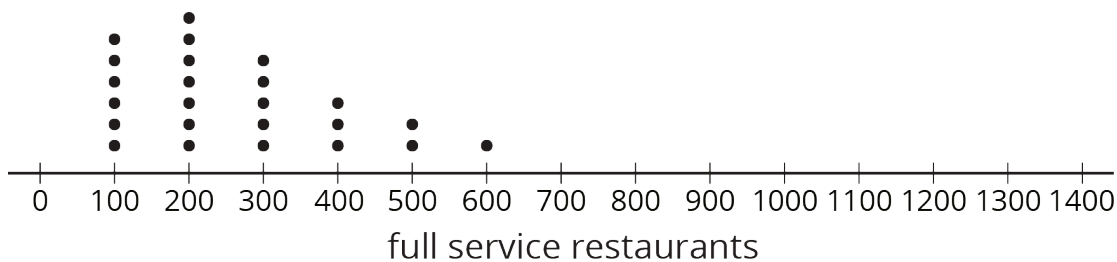
1. How does the average number of customers served per day at a full service restaurant generally compare to the number served at a fast food restaurant? Explain your reasoning.

2. About how many customers do you think your restaurant will serve per day? Explain your reasoning.

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3. Here are prices for plates and forks:

	plates	forks
disposable	165 paper plates for $12.50	600 plastic forks for $10
reusable	12 ceramic plates for $28.80	24 metal forks for $30

a. Using your predicted number of customers per day from the previous question, write an equation for the total cost, d, of using disposable plates and forks for every customer for n days.

b. Is d proportional to n? Explain your reasoning.

c. Use your equation to predict the cost of using disposable plates and forks for 1 year. Explain any assumptions you make with this calculation.

4.   a. How much would it cost to buy enough reusable plates and forks for your predicted number of customers per day?

b. If it costs $10.75 a day to wash the reusable plates and forks, write an expression that represents the total cost, r, of buying and washing reusable plates and forks after n days.

c. Is r proportional to n? Explain your reasoning.

d. How many days can you use the reusable plates and forks for the same cost that you calculated for using disposable plates and forks for 1 year?