

Harry the Home Inspector

You will now begin a short math unit that will require you to complete input/output tables. After you have completed the short unit, the results will be discussed during class. Remember to read each question carefully.

Harry is a home inspector. He also does minor installations. The larger the room that he must inspect, the more he charges for his services. When he is asked to inspect a room, the first thing that he must do is find the area and perimeter. He uses this information to calculate individual prices for his services.

Part I

Complete the following tables to help Harry. The sizes for the rooms that he will measure will increase by equal amounts. Figure out the equal amount that the room increases by and use that amount to calculate the measurements of the other rooms. You will develop a rule and that rule will help you make all of the other calculations.

Rule: _____

Input: x	Output: y
540 sq. feet	\$1,080
600 sq. feet	\$1,200
660 sq. feet	
720 sq. feet	
780 sq. feet	

For this input/output table, the input (x) is equal to the area of the room and the output (y) is equal to the service price.

1. What steps did you follow in order to determine the rule for the table?

2. For the table above, is the statement "x multiplied by 2 is equal to y" true?

Part II

Harry orders materials for a room based upon its size. He is preparing to install baseboards. This item will be installed around the perimeter of each room. Help him to complete the table.

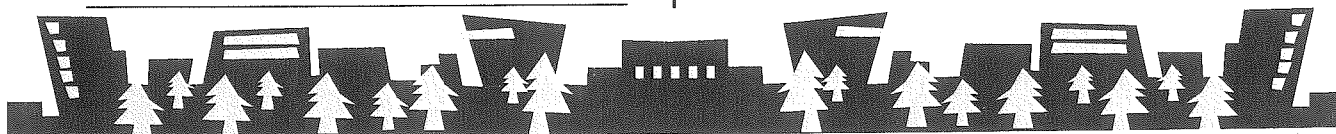
The rule for the table is given below. Use the rule to complete the pricing guide for baseboard installation.

Rule: *Input multiplied by 150% is equal to output*

Input: x	Output: y
100	150
200	300
300	
400	
500	

For this input/output table input (x) is equal to the perimeter of the room and the output (y) is equal to the service price.

1. How much will Harry and his associates charge to install baseboards for a room that has a 400 ft. perimeter? _____
2. Use x and y to write a mathematical statement for the table. _____
3. If the client had a room that was 150 ft., what would be the baseboard installation price? (Hint: Use the rule from the table to calculate answer.) _____



The Eatery

Mark is the manager of an eatery. He often has to change recipes to suit the number of people he estimates he will have to serve. Complete the input/output tables in order to change the recipes to serve different numbers of people.

Part I

Party Fruit Salad

Rule: _____

Serves 8 people	Serves _____ people
6 cups of watermelon	
2 cups of raisins	
3 apples	
½ cup of cherries	
1 lb strawberries	3 lbs. strawberries
1 mango	

Turkey Loaf

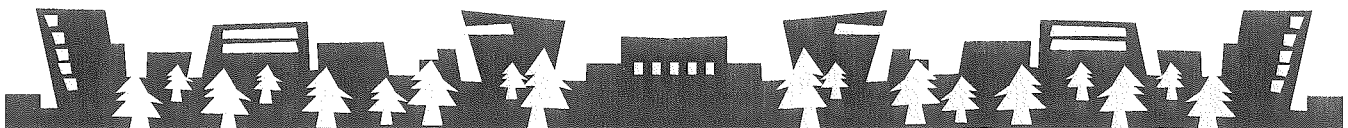
Rule: _____

Serves 8 people	Serves _____ people
2 lbs. turkey meat	
¼ cup mashed potatoes	2 cups mashed potatoes
5 tbsp. bread crumbs	
⅓ cup onions	
1 egg	
1 dash salt	
1 dash pepper	

Chili

Rule: _____

Serves 6 people	Serves _____ people
2 lbs turkey meat	1 lb. turkey meat
8 ounces cooked black beans	
16 ounces cooked kidney beans	
⅓ tsp. fresh garlic	
½ tsp. salt	¼ tsp. salt
⅓ lbs. snap beans	
1 package of chili powder	
1 cup salsa	



The Eatery (cont.)

Part II

Mark has prepared the following dishes for different numbers of people. He still has part of the recipes, but he doesn't remember how many people they serve. Figure out what the rule is and complete the tables below.

Vegetable Medley

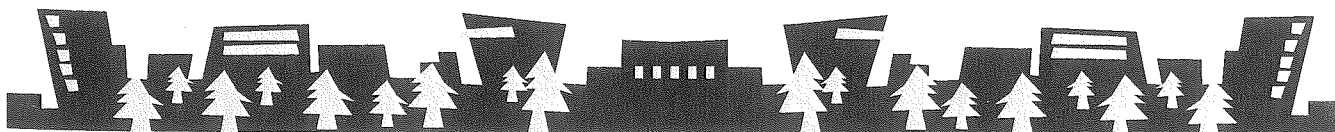
Rule: _____

Serves 5 people	Serves _____ people
1 cup cauliflower	
$\frac{2}{3}$ cup broccoli	
2 cups carrots	6 cups carrots
$\frac{1}{2}$ cup snap peas	
2 packages miniature ball onions	
1 dash salt	
1 dash pepper	
2 tbsp. butter	

Turkey and Pasta Chowder

Rule: _____

Serves 80 people	Serves _____ people
20 lbs ground turkey	
5 cups chopped carrots	
15 cups bow tie macaroni	
15 medium onions	
10 tsp. pepper	
20 cans tomatoes	
10 tsp. salt	2 tsp. salt
10 tsp. garlic salt	
40 cups chopped cauliflower	
20 bay leaves	
20 cups broccoli	4 cups of broccoli



The Eatery *(cont.)*

Part III

1. The eatery's clientele continues to grow. Figure out the rule for each table and use it to complete the table. Complete the clientele table.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
22.5	52.0	81.5					

What is the rule for this table? _____

2. The number of people who are ordering the eatery's homemade chili grows each week. Complete the table.

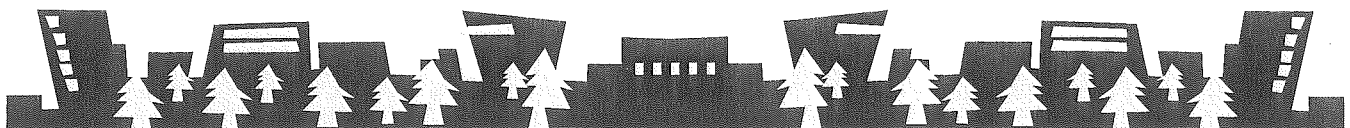
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
14	19	24					

What is the rule for this table? _____

3. The following table represents the eatery's profits over the first eight weeks of business. Complete the profits table.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
\$420.00	\$600.00	\$780.00					

What is the rule for this table? _____



The Eatery *(cont.)*

Part IV

The eatery will cater a banquet and the meat for the banquet must be ordered. Mark estimated that the number of people attending the banquet will be double the number of people who ate in the eatery in the last eight days, so he will order twice that amount of meat. Use this information to complete the table below.

Banquet Order

Rule : _____

Meat (8 Days)	Revised Order
24 turkeys	
16 chickens	
120 large sausages	
2 sides of lamb	
4 sides of duck	

1. How did you determine the amount of each type of meat that should have been ordered?

2. Mark has to calculate the amount of money that the eatery will spend on all of the meat for the banquet. He must double the amount that he spent during the eight days at the eatery.

Meat (8 Days)	Revised Order	Price		Revised Price
24 turkeys		\$264.00	x 2	
16 chickens		\$64.00	x 2	
120 large sausages		\$30.00	x 2	
2 sides of lamb		\$24.00	x 2	
4 sides of duck		\$48.00	x 2	

Total Price _____

