Unit 3 Lesson 7: Equivalent Ratios Have the Same Unit Rates

1 Which One Doesn't Belong: Comparing Speeds (Warm up)

Student Task Statement

Which one doesn't belong? Be prepared to explain your reasoning.

5 miles in 15 minutes 20 miles per hour

3 minutes per mile 32 kilometers per hour

2 Price of Burritos

Student Task Statement

1. Two burritos cost \$14. Complete the table to show the cost for 4, 5, and 10 burritos at that rate. Next, find the cost for a single burrito in each case.

| number of burritos | cost in dollars | unit price (dollars per burrito) |
|--------------------|-----------------|-------------------------------------|
| 2 | 14 | |
| 4 | | |
| 5 | | |
| 10 | | |
| b | | |

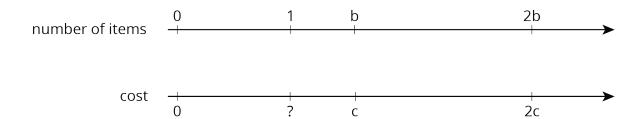
2. What do you notice about the values in this table?

3. Noah bought b burritos and paid c dollars. Lin bought twice as many burritos as Noah and paid twice the cost he did. How much did Lin pay per burrito?

| | number of burritos | cost in dollars | unit price (dollars per burrito) |
|------|--------------------|-----------------|-------------------------------------|
| Noah | b | c | $\frac{c}{b}$ |
| Lin | $2 \cdot b$ | $2 \cdot c$ | |

4. Explain why, if you can buy b burritos for c dollars, or buy $2 \cdot b$ burritos for $2 \cdot c$ dollars, the cost per item is the same in either case.

Activity Synthesis



2c

3 Making Bracelets

Student Task Statement

1. Complete the table. Then, explain the strategy you used to do so.

| time in hours | number of bracelets | speed (bracelets per hour) |
|------------------|------------------------|-------------------------------|
| 2 | | 6 |
| 5 | | 6 |
| 7 | | 6 |
| | 66 | 6 |
| | 100 | 6 |



2. Here is a partially filled table from an earlier activity. Use the same strategy you used for the bracelet problem to complete this table.

| number of burritos | | unit price (dollars per burrito) |
|--------------------|----|-------------------------------------|
| | 14 | 7 |
| | 28 | 7 |
| 5 | | 7 |
| 10 | | 7 |

3. Next, compare your results with those in the first table in the previous activity. Do they match? Explain why or why not.

4 How Much Applesauce? (Optional)

Student Task Statement

It takes 4 pounds of apples to make 6 cups of applesauce.

- 1. At this rate, how much applesauce can you make with:
 - a. 7 pounds of apples?
 - b. 10 pounds of apples?
- 2. How many pounds of apples would you need to make:
 - a. 9 cups of applesauce?
 - b. 20 cups of applesauce?

| pounds of apples | cups of applesauce |
|------------------|--------------------|
| 4 | 6 |
| 7 | |
| 10 | |
| | 9 |
| | 20 |