*Adapted from MATHSCAPES-Blue-Buyer Beware, Lesson 8*

**Maya and Jerri decide to run laps together at track practice. They agree to run at the same pace while they practice. Maya begins first, then Jerri finishes warming up and begins later. When Maya has run 6 laps, Jerri has run 2 laps. Complete the rest of the table according to the pattern. When Maya has run 12 laps, how many laps has Jerri run?**

Organize this information in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Maya’s Laps | **4** |  |  | **7** |  | **12** |
| Jerri’s Laps |  | **1** | **2** |  | **4** |  |

1. Does this table look like a ratio table?

2. Do the values maintain the same ratio across the table?

3. If you pulled the values out of the table and set them up in fraction form would they be equivalent ratios?

4. Choose three of the ratios off the table and graph them below.

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Does the graph show a straight line?

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Does the line go through the origin?

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 R

Do the other points fall on that line?

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 M A Y A L A P S

**IN A PROPROTIONAL RELATIONSHIP, THE RATIOS WILL BE EQUIVALENT**

**OR MAINTAIN THE SAME VALUE.**

**Is the relationship between Maya’s laps and Jerri’s laps proportional? How can you tell?**

**DETERMINING PROPORTIONS**

**For each situation below, complete the table. Then, make a graph of the situation and answer the questions.**

1. Ms. Beale’s class is setting up a lemonade stand as a fund-raiser for the Wake Middle School media center. To make the lemonade, they will use four cans of water for every one can of lemon mix concentrate.

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| **Cans of concentrate** | **1** |  |  |  |  |
| **Cans of Water** | **4** |  |  |  |  |

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1. Complete the table.
2. Label the graph then graph pairs.
3. Is this a proportional ratio table?
4. How do you know? Explain.

Cans of Concentrate

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2. Suko and Tommy want to rent bikes at the beach. They have to pay a $5 fee plus $2 an hour for each hour they have the bikes out.

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| **Hours** | **1** | **2** |  |  |  |
| **Cost in Dollars** | **7** |  |  |  |  |

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1. Complete the table.
2. Label the graph then graph pairs.
3. Is this a proportional ratio table?
4. How do you know? Explain.

Hours

3. How are the graphs in questions 1 and 2 alike? How are they different?

Adapted from *MathScape –* Blue “Buyer Beware”, Reproducible 14.