Module 1 Lesson 1

Homework

1. Mr. Rowley has 16 homework papers and 14 exit tickets to return. Ms. Rivera has 64 homework papers and 60 exit tickets to return. For each teacher, write a ratio to represent the number of homework papers to number of exit tickets they have to return. Are the ratios equivalent? Explain.

2. Of the 30 girls who tried out for the lacrosse team at Euclid Middle School, 12 were selected. Of the 40 boys who tried out, 16 were selected. Are the ratios of the number of students on the team to the number of students trying out the same for both boys and girls? How do you know?

3. Devon is trying to find the unit price on a 6-pack of drinks on sale for $2.99. His sister says that at that price, each drink would cost just over $2.00. Is she correct, and how do you know? If she is not, how would Devon’s sister find the correct price?

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Module 1 Lesson 2

Homework

1. A cran-apple juice blend is mixed in a ratio of cranberry to apple of 3 to 5.

 a. Complete the table to show different amounts that are proportional.

|  |  |  |  |
| --- | --- | --- | --- |
| Amount of Cranberry |  |  |  |
| Amount of Apple |  |  |  |

b. Why are these quantities proportional?

2. John is filling a bathtub that is 18 inches deep. He notices that it takes two minutes to fill the tub with three inches of water. He estimates it will take 10 more minutes for the water to reach the top of the tub if it continues at the same rate. Is he correct? Explain.

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Module 1 Lesson 3

Homework

1. In each table, determine if *y* is proportional to *x.* **Explain why or why not.**

|  |  |
| --- | --- |
| X | Y |
| 3 | 15 |
| 4 | 17 |
| 5 | 19 |
| 6 | 21 |

|  |  |
| --- | --- |
| X | Y |
| 6 | 4 |
| 9 | 6 |
| 12 | 8 |
| 3 | 2 |

2. Kayla made observations about the selling price of a new brand of coffee that sold in three different-sized bags. She recorded those observations in the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| Ounces of coffee | 6 | 8 | 16 |
| Price in Dollars | $2.10 | $2.80 | $5.60 |

1. Is the price proportional to the amount of coffee? Why or why not?
2. Use the relationship to predict the cost of a 20 oz. bag of coffee.

Module 1 Lesson 3

Homework

1. In each table, determine if *y* is proportional to *x.* **Explain why or why not**

|  |  |
| --- | --- |
| 2 | 12 |
| 5 | 20 |
| 2 | 8 |
|  8 | 32 |

|  |  |
| --- | --- |
| X | Y |
| 2 | 12 |
| 5 | 20 |
| 2 | 8 |
|  8 | 32 |

|  |  |
| --- | --- |
| X | Y |
| 3 | 15 |
| 4 | 17 |
| 5 | 19 |
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Module 1 Lesson 4

Homework

1. Joseph earns $15 for every lawn he mows. Is the amount of money he earns proportional to the number of lawns he mows? Make a table to help you identify the type of relationship.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Number of Lawns Mowed** |  |  |  |  |
| **Earning ($)** |  |  |  |  |

1. At the end of the summer, Caitlin had saved $120 from her summer job. This was her initial deposit into a new savings account at the bank. As the school year starts, Caitlin is going to deposit another $5 each week from her allowance. Is her account balance proportional to the number of weeks of deposits? Use the table below. Explain your reasoning.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Time (in weeks)** |  |  |  |  |
| **Account Balance ($)** |  |  |  |  |

Module 1 Lesson 4

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Time (in weeks)** |  |  |  |  |
| **Account Balance ($)** |  |  |  |  |

Module 1 Lesson 6

Homework

|  |  |
| --- | --- |
| **Problem** Sally’s aunt put money in a savings account for her on the day Sally was born. The savings account pays interest for keeping her money in the bank. The ratios below represent the number of years to the amount of money in the savings account. * After one year, the interest accumulated, and the total in Sally’s account was $312.
* After three years, the total was $340. After six years, the total was $380.
* After nine years, the total was $430. After 12 years, the total amount in Sally’s savings account was $480.

Using the same four-fold method from class, create a table and a graph, and explain whether the amount of money accumulated and the time elapsed are proportional to each other. Use your table and graph to support your reasoning. | **Table** |
| **Graph** | **Proportional or not? Explanation:** |

Module 1 Lesson 8

On average, Susan downloads 60 songs per month. An online music vendor sells package prices for songs that can be downloaded onto personal digital devices. The graph below shows the package prices for the most popular promotions. Susan wants to know if she should buy her music from this company or pay a flat fee of $58.00 per month offered by another company. Which is the better buy?

Coordinate Pairs: (5,4.5) (12, 10.8) (20,18) (40,36)



a. Find the constant of proportionality for this situation.

b. Write an equation to represent the relationship.

c. Use your equation to find the answer to Susan’s question above. Justify your answer with mathematical evidence and a written explanation.

Module 1 Lesson 8

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Module 1 Lesson 9

**Use a separate page for you answers**

|  |  |
| --- | --- |
| **Number of Gallons of Gas** | **Number of Miles Driven**  |
| 0 | 0 |
| 2 | 62 |
| 4 | 124 |
| 10 | 310 |

a. Which variable is the dependent variable, and why?

b. Is the number of miles driven proportionally related to the number of gallons of gas consumed? If so, what is the equation that relates the number of miles driven to the number of gallons of gas?

c. In any ratio relating the number of gallons of gas and the number of miles driven, will one of the values always be larger? If so, which one?

d. If the number of gallons of gas is known, can you find the number of miles driven? Explain how this value would be calculated.

e. If the number of miles driven is known, can you find the number of gallons of gas consumed? Explain how this value would be calculated.

f. How many miles could be driven with 18 gallons of gas?

g. How many gallons are used when the car has been driven 18 miles?

h. How many miles have been driven when half a gallon of gas is used?

i. How many gallons of gas have been used when the car has been driven for a half mile?

Module 1 Lesson 9

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Module 1 Lesson 10

**Use graph paper**

1) The graph represents the total cost of renting a car. The cost of renting a car is a fixed amount each day, regardless of how many miles the car is driven.

 a. What does the ordered pair

 (4, 250) represent?

b. What would be the cost to rent the car for a week? Explain or model your reasoning.

2) The following table shows the amount of candy and price paid.

|  |  |  |  |
| --- | --- | --- | --- |
| **Amount of Candy (In Pounds)** | 2 | 3 | 5 |
| **Cost (in Dollars)** | 5 | 7.5 | 12.5 |

a. Is the cost of the candy proportional to the amount of candy?

b. Write an equation to illustrate the relationship between the amount of candy and the cost.

c. Using the equation, predict how much it will cost for 12 pounds of candy.

d. What is the maximum amount of candy you can buy with $60?

e. Graph the relationship.

Module 1 Lesson 12

1. You are getting ready for a family vacation. You decide to download as many movies as possible before leaving for the road trip. If each movie takes $1\frac{2}{5} $hours to download, and you downloaded for $5\frac{1}{4} $hours, how many movies did you download?

2. A toy jeep is $12\frac{1}{2} $inches long, while an actual jeep measures $18\frac{3}{4} $feet long. What is the value of the ratio of the length of the toy jeep to the length of the actual jeep? What does the ratio mean in this situation?

3. To make 5 dinner rolls, $\frac{1}{3} $ cup of flour is used

a. How much flour is needed to make one dinner roll?

b. How many cups of flour are needed to make 3 dozen dinner rolls?

c. How many rolls can you make with $5\frac{2}{3} $3 cups of flour?

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