**Part​ ​1.**

Yay camping! The state park that Emma and her friends are going to is very popular! She has been looking at when they should get there and how many people might be in the park at any given time. Can you help her predict how many people might be in the park after three and after seven hours?

|  |  |  |
| --- | --- | --- |
| **Step** | **Hours since State Park Opened** | **Guests at State Park** |
| 0 | 1.2 | 30 |
| 1 | 3 | **???** |
| 2 | 7 | **???** |

**Solution**

**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Hours since Park Opening** | **Guests at Park** |
| 0 | 1.2 | 30 |
| 1 | 3 | **75** |
| 2 | 7 | **???** |

**Step 2**

|  |  |  |
| --- | --- | --- |
| **Step** | **Hours since Park Opening** | **Guests at Park** |
| 0 | 1.2 | 30 |
| 1 | 3 | **75** |
| 2 | 7 | **175** |

With the ratio of

**Part​ ​2.**

Originally, Emma was going to ride her bike to the park but now she is thinking they will drive. Emma is trying to figure out how much gas they will need to get to and from the park. She measured out how much gas she used when she drove to and from her house, which was about 5.6 miles roundtrip. She needs help using this information to figure out how many gallons of gas they will need if they drive the 72.5 miles to the park. She’s also interested in how many more miles they could drive if she buys 85 gallons of gas, which is the most she can afford.

|  |  |  |
| --- | --- | --- |
| **Step** | **Gallons of Gas** | **Miles** |
| 0 | 4.8 | 5.6 |
| 1 | **???** | 72.5 |
| 2 | 85 | **???** |

**Solution**

**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Gallons of Gas** | **Miles** |
| 0 | 4.8 | 5.6 |
| 1 | **62.14** | 72.5 |
| 2 | 85 | **???** |

**Step 2**

|  |  |  |
| --- | --- | --- |
| **Step** | **Gallons of Gas** | **Miles** |
| 0 | 4.8 | 5.6 |
| 1 | **62.14** | 72.5 |
| 2 | 85 | **99.167** |

With the ratio of

**Part​ ​3.**

Emma’s biology teacher knows that she and friends are going on a camping trip. He has asked Emma to collect samples from the lakes and trees and to analyze them for pollution content. In preparation, Emma has been trying to figure out how to use scientific notation so she can make notes about the data while she is there. But she is struggling with how it actually works. Help her practice on the below numbers?

|  |  |  |
| --- | --- | --- |
| **Step** | **Number to Convert** | **Scientific Notation** |
| 0 | 3600 | 3.6 x 103 |
| 1 | 74000 | **???** |
| 2 | 1250 | **???** |

**Solution**

**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Number to Convert** | **Scientific Notation** |
| 0 | 3600 | 3.6 x 103 |
| 1 | 74000 |  |
| 2 | 1250 | **???** |

**Step 2**

|  |  |  |
| --- | --- | --- |
| **Step** | **Number to Convert** | **Scientific Notation** |
| 0 | 3600 | 3.6 x 103 |
| 1 | 74000 |  |
| 2 | 1250 |  |

**Part​ ​4.**

Emma really likes her biology teacher. She wants to impress him with the data she can bring back from the camping trip and so to prepare she is looking at existing data on the area they are going to be camping at. She has found that other people have seen the chemicals in the lake have been increasing over the years. She wants to figure out how many more parts per million of chlorine has been found from 2010 to 2014 but she’s struggling because it is in scientific notation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Date** | **Chlorine** | **Difference** |
| 0 | 2010 | 3.7 x 103 | ---- |
| 1 | 2014 |  |  |

**Solution**

**Step 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Date** | **Chlorine** | **Difference** |
| 0 | 2010 | 3.7 x 103 | ---- |
| 1 | 2014 |  |  |

**Part​ ​5.**

Emma is super curious about how many other people go camping in the world and how they like to camp! For example, her and her friends are camping in a tent at a state park. But some people like to camp in their backyards while some people like to bring a vehicle to camp inside! She’s curious how many people are like her and her friends, and she wants to share the data with her friends but what she found is all in fractions. Help her convert it to percentages?

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Type of Camping** | **Fraction** | **Percentage** |
| 0 | Backyard Campers |  | 20% |
| 1 | Tent Campers |  | **???** |
| 2 | Vehicle Campers |  | **???** |

**Solution**

**Step 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Type of Camping** | **Fraction** | **Percentage** |
| 0 | Backyard Campers |  | 20% |
| 1 | Tent Campers |  | **60%** |
| 2 | Vehicle Campers |  | **???** |

**Step 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Type of Camping** | **Fraction** | **Percentage** |
| 0 | Backyard Campers |  | 20% |
| 1 | Tent Campers |  | **60%** |
| 2 | Vehicle Campers |  | **20%** |

**Part​ ​6.**

Emma’s friend Ashley has decided maybe they could make money selling s’more making materials to the other people at the campground! To support her business-minded friend, Emma is looking to see how different people like their s’mores so they can decide what kinds of materials they might want to bring to sell them. But she has some rather large and odd fractions. Can you help her reduce them?

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Preference** | **Fraction of People** | **Reduced Fraction** |
| 0 | Classic |  |  |
| 1 | Extra chocolate |  | **???** |
| 2 | Extra marshmallows |  | **???** |
| 3 | With caramel |  | **???** |

**Solution**

**Step 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Preference** | **Fraction of People** | **Reduced Fraction** |
| 0 | Classic |  |  |
| 1 | Extra chocolate |  |  |
| 2 | Extra marshmallows |  | **???** |
| 3 | With caramel |  | **???** |

The greatest common factor is

**Step 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Preference** | **Fraction of People** | **Reduced Fraction** |
| 0 | Classic |  |  |
| 1 | Extra chocolate |  |  |
| 2 | Extra marshmallows |  |  |
| 3 | With caramel |  | **???** |

The greatest common factor is 5

**Step 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Preference** | **Fraction of People** | **Reduced Fraction** |
| 0 | Classic |  |  |
| 1 | Extra chocolate |  |  |
| 2 | Extra marshmallows |  |  |
| 3 | With caramel |  |  |

No common factor