**Part​ ​1.**

Emma and her friends were thinking about activities to do while camping, and they decided to go berry picking. They realized that they do not have any baskets! The group decided to use some leaves and sticks to create a simple basket. They know that three baskets need 5 sticks and 2 big leaves, if there are 14 people, how many sticks and leaves do they need so that everyone gets a basket?

|  |  |  |
| --- | --- | --- |
| **Step** | **Amount of Leaves and Sticks** | **Number of Baskets** |
| 0 | Sticks: 5  Leaves: 2 | 3 |
| 1 | **Sticks: ??** | 14 |
| 2 | **Leaves: ??** | 14 |

**Solution**

**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Amount of Leaves and Sticks** | **Number of Baskets** |
| 0 | Sticks: 5  Leaves: 2 | 3 |
| 1 | **Sticks:** | 14 |
| 2 | **Leaves: ??** | 14 |

**Step 2**

|  |  |  |
| --- | --- | --- |
| **Step** | **Amount of Leaves and Sticks** | **Number of Baskets** |
| 0 | Sticks: 5  Leaves: 2 | 3 |
| 1 | **Sticks:** | 14 |
| 2 | **Leaves:** | 14 |

**Part​ ​2.**

Emma loved the berries and so did the group but now everyone is looking forward to lunch. Emma thinks it’d be a great idea to go fishing for their lunch, but she wants to know if she’ll have enough time to catch the fish. If she has 1 hour to catch the fish and it takes 4 minutes to catch one fish, will Emma have enough time to catch one fish for each of the 14 campers?

|  |  |  |
| --- | --- | --- |
| **Step** | **Number of Fish** | **Time to Catch Fish** |
| 0 | 1 | 4 minutes |
| 1 | 14 | **?? < 1 hour** |

**Solution**

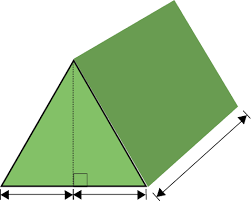
**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Number of Fish** | **Time to Catch Fish** |
| 0 | 1 | 4 minutes |
| 1 | 14 | **56 < 1 hour** |

It will take Emma 56 minutes to catch 14 fish, which is just under an hour, so she has enough time to catch some fish for everyone.

**Part​ ​3.**

It is getting late and Emma and the group need to get their tents set up before nightfall is upon them. The tents look like the triangular prism below, we know the width of the pole holding up the tent (b), so the height is 5 feet. From the pole to the corner (a) is 4 feet but we aren’t sure what the length of C is. Using Pythagorean Theorem, solve for c?



CCtext here

B text here

A text here

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Width from pole to corner** | **Height of Tent** | **Length of tent from top to corner** |
| 0 | a | b | c |
| 1 | 3 | 4 | **c =??** |

**Solution**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Width from pole to corner** | **Height of Tent** | **Length of tent from top to corner** |
| 0 | a | b | c |
| 1 | 3 | 4 | **5** |

Pythagorean Theorem states

Substitute the known values into the equation and solve for

**Part​ ​4.**

The next day the group and Emma spend some time at the lake, they start skipping rocks. Emma has never skipped rocks so she is fascinated by it. A camper named Andrea skips the rock 7 times, Emma asked her how she did it but Andrea finds it hard to explain. So Emma makes it into in equation. Emma throws too fast and then too slow. She knows some info about the distance and time of Andrea’s throw. She wants to calculate the speed Andrea throws the rock and how much longer her own rock needs to be in the air to beat Andrea’s distance.

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Distance** | **Speed** | **Time** |
| **0** | **d** | **s** | **t** |
| 1 | 10 meters | **??** | 4.5 seconds |
| 2 | 12 meters | (given speed above) | **??** |

**Solution**

**Step 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Distance** | **Speed** | **Time** |
| **0** | **d** | **s** | **t** |
| 1 | 10 meters |  | 4.5 seconds |
| 2 | 12 meters | (given speed above) | **??** |

Literal equation:

Solve the literal equation for :

Substitute known values in for the variables:

**Step 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Distance** | **Speed** | **Time** |
| **0** | **d** | **s** | **t** |
| 1 | 10 meters |  | 4.5 seconds |
| 2 | 12 meters | (given speed above) |  |

Literal equation:

First solve the literal equation for :

Then substitute known values in for the variables:

**Part​ ​5.**

Emma decides she will plant a new pine tree every year. With the pine tree that she and her friends found and the pine tree in her backyard, she already has two pine trees. Help her figure out an equation she can use to calculate many trees she will have 5 and 14 years from now.

|  |  |  |
| --- | --- | --- |
| **Step** | **Years** | **Trees** |
| 0 | 0 | 2 |
| 1 | 5 | **??** |
| 2 | 14 | **??** |

**Solution**

**Step 1**

|  |  |  |
| --- | --- | --- |
| **Step** | **Years** | **Trees** |
| 0 | 0 | 2 |
| 1 | 5 | **7** |
| 2 | 14 | **??** |

**Step 2**

|  |  |  |
| --- | --- | --- |
| **Step** | **Years** | **Trees** |
| 0 | 0 | 2 |
| 1 | 5 | **7** |
| 2 | 14 | **16** |

**Part​ ​6.**

Finally, Emma is looking at the time she spent with each of her friends while camping. Help her figure out the fraction of total time she spent with a few of her friends below?

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Friend** | **Time** | **Fraction** |
| 0 | Ashley | 5 hours | 0.48 |
| 1 | Pedro | 75 minutes | **??** |
| 2 | Zach | 125 minutes | **??** |
| 3 | Tasha | 2 hours | **??** |

**Solution**

**Step 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Friend** | **Time** | **Fraction** |
| 0 | Ashley | 5 hours | 0.48 |
| 1 | Pedro | 75 minutes | **0.125** |
| 2 | Zach | 125 minutes | **??** |
| 3 | Tasha | 2 hours | **??** |

**Step 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Friend** | **Time** | **Fraction** |
| 0 | Ashley | 5 hours | 0.48 |
| 1 | Pedro | 75 minutes | **0.125** |
| 2 | Zach | 125 minutes | **0.21** |
| 3 | Tasha | 2 hours | **??** |

**Step 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Friend** | **Time** | **Fraction** |
| 0 | Ashley | 5 hours | 0.48 |
| 1 | Pedro | 75 minutes | **0.125** |
| 2 | Zach | 125 minutes | **0.21** |
| 3 | Tasha | 2 hours | **0.2** |