| **Low Level of**  **Cognitive Demand** | **High Level of**  **Cognitive Demand** |
| --- | --- |
| Jasmine turned 12 years old last week and her parents gave her a cell phone as a birthday gift.  Jasmine’s parents said that she is allowed to keep the phone as long as her average screen time each day does not go over 240 minutes during any two-week period of time.  Jasmine has kept a record of her screen time over the last 13 days.   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Screen Time  (minutes) | 310 | 195 | 220 | 275 | 190 | 210 | 280 | | Day | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | Screen Time  (minutes) | 215 | 195 | 255 | 275 | 270 | 265 |  |   If she talks for 205 minutes on day 14, what is the mean, median, and mode? | Jasmine turned 12 years old last week and her parents gave her a cell phone as a birthday gift.  Jasmine’s parents said that she is allowed to keep the phone as long as her average screen time each day does not go over 240 minutes during any two-week period of time.  Jasmine has kept a record of her screen time over the last 13 days.   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Screen Time  (minutes) | 310 | 195 | 220 | 275 | 190 | 210 | 280 | | Day | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | Screen Time  (minutes) | 215 | 195 | 255 | 275 | 270 | 265 |  |   a)  Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow?  Explain your reasoning.  b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents’ limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning. |
| Michael will babysit his little brother every day. He will earn $10 a day for babysitting. Write an equation to represent this situation. If a summer pass to the amusement park costs $86, will he have enough money to go if he wants to go on day 10? | Michael, Susie, and Karl plan to purchase summer passes to a local amusement park. They decide to work summer jobs to earn the money for the summer passes.   * Michael will babysit his little brother every day. He will earn $10 a day for babysitting. * Susie’s sister has a summer lawn care business. Susie will help her sister pull weeds out of the flower beds every day. Her sister will pay her $50 upfront and then a dollar each day. * Karl has already saved $35 for his summer pass. His mom agrees to give him one dollar for every day that he does his chores. Karl does his chores every day.   If a summer pass to the amusement park costs $86, who will be the first one to have enough money to buy the pass? How long will it be before they can all go together? Explain your reasoning and give evidence of your position. |

| Timothy has 72 yards of fence around a rectangular garden. If the length of his garden is 20 yards, what is the width? What is the area of his garden? | Your parents have asked you to design an enclosed area in your backyard for your dog.   * The enclosed area can be in the shape of a square or a rectangle. * The area will be enclosed with a fence that cannot be attached to another structure (i.e., the house, shed, etc.). * There is 72 yards of fencing available. * The dimensions of your rectangular backyard is 30 yards by 35 yards.   What is the largest area in your backyard that can be enclosed for your dog?  What are the dimensions of this enclosed area? Justify how you know that your design provides the largest area. |
| --- | --- |
| In a bowl there are 3 coconut flavor jelly beans and 2 soap flavored jelly beans. What is the probability of choosing a coconut jelly bean, eating it, and then choosing another coconut jelly bean? | J. Beans, Inc. produces two different flavor mixes at their jelly bean factory. Their most popular J. Beans are the Original Juicy Beans, but they also sell a surprisingly large quantity of their Junk Beans as well. If you look at flavor guides for these two mixtures, you will see that the Juicy Bean coconut flavor and the Junk Bean soap flavor look identical. Likewise, buttered popcorn and rotten egg look the same.  Ms. Chievous makes two bowls of jelly beans with her own unique mixture of flavors.  The tables show how many jelly beans of each flavor Ms. Chievous placed in the two bowls:  bowl 1 and bowl 2 table  Ms. Chievous explains that she will select the name of one student who can have two of the jelly beans from her bowls. It is your lucky day, Ms. Chievous draws your name and asks if you are willing to choose two jelly beans and eat them in front of the entire class. You accept the challenge but are really hoping to avoid having your mouth taste like it is filled with soap or a rotten egg.  Three of your best friends give you some advice.   |  |  |  | | --- | --- | --- | | Susan suggests that you pick two jelly beans from bowl 1. | Todd advises you to pick both jelly beans from bowl 2. | Jamie tells you that you should pick one jelly bean from each bowl. |   Think this through carefully! Ms. Chievous will have the camera rolling as you eat each jelly bean. Whose advice should you follow?  Explain your reasoning thoroughly enough to convince us that you are making the best out of your lucky day. |