|  |  |
| --- | --- |
| **Standard(s):**  **8.F.1** | |
| **Questions** | **Answers** |
| 1. Identify the following relation as a Function or Not a Function: | 1. Not a Function |
| 2. Identify the following relation as a Function or Not a Function: | 1. Not a function |
| 3. Identify the following relation as a Function or Not a Function: | 1. Function |
| 1. Identify the following relation as a Function or Not a Function:   (-3, 2) (4, 2) (6, 2) (-1, 2) (5,2) | 4. Function |
| 5. Identify the following relation as a Function or Not a Function: | 1. Not a Function |

|  |  |
| --- | --- |
| **Standard(s):**  **8.F.2** | |
| **Questions** | **Answers** |
| 1. Identify which function has a negative rate of change: Function 1:  Jane was given fifty dollars for her birthday. Every week she spends $2.50 on snacks at lunch. Let y represent the amount of money she has as a function of x, the number of weeks.  Function 2:  Ivan has been collecting model cars for several years. He currently has sixteen model cars. He makes two new model cars each year. Let y represent the number of model cars, as a function of the number of years collecting, x. | 1. Function 1 |
| 1. Which function has the greatest rate of change?  Function 1:     Function 2: | 2. Function 1:  Function 2:   Function 1 has the greatest rate of change. |
| 1. Thomas and Tanner mow lawns to earn money during the summer. The functions below represent the amount of money they earn per lawn. Both boys charge a fee for transporting their equipment plus a certain amount per acre of land they mow. Let y represent the amount earned, for each acre of land they mow, x.   Thomas: y = 6x + 6 Tanner:  Who charges more to mow an acre of land? Who has the larger transportation charge? | 1. Thomas charges the most per acre. Thomas charges $6 per acre, but his transportation fee is less. Tanner charges $4 per acre, but has a $10 transportation fee. Tanner has the larger transportation fee. |
| 4. Compare the cost of bananas at the following stores:   * Store A sells bananas for 5lb. of bananas for $2.85. * Store B sells bananas at the following rate:     If Janet needs three pounds of bananas for a banana pudding, which store should she go to for the cheapest price? How much will she save at this store? | 1. Store 1: $0.57 per pound   Store 2: $0.50 per pound  Janet should buy her bananas at Store 2. She will save $0.21. |
| 5. A candle burns at a rate of  , where y is the height of the candle after burning x hours.   Write a function rule for a 10 inch candle that burns faster than the candle above. | 5.Answers will vary. Students should write a function rule with a y-intercept of 10 and a negative rate of change, which has an absolute value greater than 1.5. |

|  |  |
| --- | --- |
| **Standard(s):**  **8.F.5** | |
| **Questions** | **Answers** |
| 1. On the coordinate grid below, sketch a graph of a continuous function that  * is increasing and nonlinear from *x = –*4 to *x* = 0 * is linear and has a negative slope from *x =* 0 to *x* = 4, * and is decreasing and nonlinear from *x =* 4 to *x* = 10.   https://homebase.schoolnet.com/files/assess_files/969049b0-e92f-49e2-9b14-656fec14dcce/image/11e4107a-0d30-4c05-be16-0de673b3abf4.gif | 1. Answers will vary. Ensure students know the difference between linear and nonlinear, and increasing and decreasing. |
| 1. The graph below shows Joshua’s travels to school each day. Describe Joshua’s trip to school. | Answers will vary. Sample answer: Joshua walks to the bus stop, he stops and waits for the bus, and then he rides the bus to school. |
| 1. Is the function below linear or non-linear? Name the x-interval of the function that is decreasing. | 3. Non-Linear. The function is decreasing from x = -3 to x =4. |
| 1. When the stop light turns green, Jordan accelerates, until he reaches 5 miles over the speed limit. He decreases his speed to the speed limit and then drives at a constant rate. Draw a speed-time graph that represents this situation. |  |

|  |  |
| --- | --- |
| 1. On the coordinate grid below, sketch a graph of a continuous function that  * is decreasing and linear from  *x = –*4 to *x* = -2 * is linear and has a positive slope from *x =* -2to *x* = 2 * is decreasing and nonlinear from *x =* 2 to *x* = 5. * and is increasing and linear from  x = 5 to x = 10.   https://homebase.schoolnet.com/files/assess_files/969049b0-e92f-49e2-9b14-656fec14dcce/image/11e4107a-0d30-4c05-be16-0de673b3abf4.gif | 5. Answers will vary. Ensure students know the difference between linear and linear, and increasing and decreasing. |