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| **Standard(s):****8.F.1** |
| **Questions** | **Answers** |
| 1. Does the following relation define a Function?

$$x^{2}+y^{2}=49$$ |  |
| 2. Does the following table represent a function?

|  |  |
| --- | --- |
| x | y |
| 2 | -4 |
| 4 | 8 |
| 5 | 4 |
| 4 | -2 |
| 0 | 1 |

 |  |
| 3. Does the following graph represent a function? http://ndl.mgccw.com/mu3/app/20140815/23/1408127054342/ss/3_small.png |  |
| 4. Is the following relation a function?(-1, 2) (3, 2) (5, 2) (0, 2) (4,2) | 4. |
| 5. Does the following graph represent a function? http://dl.uncw.edu/digilib/mathematics/algebra/mat111hb/functions/graphs/sidequad.gif |  |

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| **Standard(s):****8.F.2** |
| **Questions** | **Answers** |
| 1. Which function below would have a negative rate of change?Function 1: Josiah was gifted $75 for his birthday. Each week he stops at the local candy store and spends $1.25. Let y represent the amount of money has after, x, number of weeks. Function 2: Ian currently has 16 baseball cards. He buys two new cards each month. Let y represent the number of cards after, *x*, number of months.  |   |
| 1. Which function has the greater rate of change? Function 1:

|  |  |
| --- | --- |
| x | y |
| -3 | 5 |
| 0 | 4 |
| 3 | 3 |
| 6 | 2 |

Function 2: $$y=-\frac{1}{2}x+5$$ |    |
| 1. The functions below represent the amount of money Jenny and Hollie earn mowing lawns. Both charge a fee for transporting their equipment plus a certain amount per acre mowed. Let y represent the amount earned, for each acre of land, x.

Jenny: y = 5x + 10 Holly

|  |  |
| --- | --- |
| # of acres | Earnings |
| 0 | 15 |
| 5 | 35 |
| 10 | 55 |
| 15 | 75 |
| 20 | 95 |

Who charges more to mow an acre of land? Who has the larger transportation charge? $ |  |
| 4. Compare the cost of apples at the following stores: * Store A sells 5lb. of apples for $3.85.
* Store B sells apples at the following rate:

|  |  |
| --- | --- |
| Number of pounds | Cost |
| 1 | .80 |
| 2 | 1.60 |
| 3 | 2.40 |
| 4 | 3.20 |

If Lukes buys three pounds of apples, which store should he go to for the cheapest price? How much will he save at this store?  |  |
| 5. A candle burns at a rate of$y=-1.25x+8$, where y is the height of the candle after burning x hours. Write a function rule for a candle with the same starting height as the candle above, but that burns at a faster rate. |  |

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| **Standard(s):****8.F.5** |
| **Questions** | **Answers** |
| 1. Use the coordinate grid below to sketch a graph of a continuous function that
* is increasing and nonlinear from *x = –*3 to *x* = 0
* is linear and has a negative slope from *x =* 0 to *x* = 3,
* and is decreasing and nonlinear from *x =* 3 to *x* = 9.

https://homebase.schoolnet.com/files/assess_files/969049b0-e92f-49e2-9b14-656fec14dcce/image/11e4107a-0d30-4c05-be16-0de673b3abf4.gif |  |
| 1. Use the graph below to describe Devin’s trip to school.

http://a.files.bbci.co.uk/bam/live/content/ztk6pv4/small |  |
| 1. Is the function below linear or non-linear? Name the x-interval of the function that is decreasing.

http://image.tutorvista.com/cms/images/40/non-linear-equations.GIF |  |
| 1. Draw a speed-time graph that represents the following situation. Jordan leaves for work in his car. He starts by accelerating until he reaches 5 miles over the speed limit. He decreases his speed to the speed limit and then drives at a constant speed.

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| 5.Use the coordinate grid below to sket;ch a graph of a continuous function that:* is increasing and linear from *x = –*4 to *x* = -2
* is linear and has a negative slope from *x =* -2to *x* = 2
* is increasing 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 |  |