**Question 1** Standard: A1.LQE.A.2 Blooms: Apply DOK: 2 Total Points: 5

Points Scored:

Points Possible: 34

---------- = %

Find the vertex, the equation of the axis of symmetry, and the y-intercept for the function below:

y = 2x2 + 4x - 3

|  |
| --- |
| Show ALL work here (2 points):    **Answers** (1 point each):  Vertex:  Axis of Symmetry:  y-intercept: |

**Question 2** Standard: A1.IF.B.3 Blooms: Analyze DOK: 1 Total Points: 6

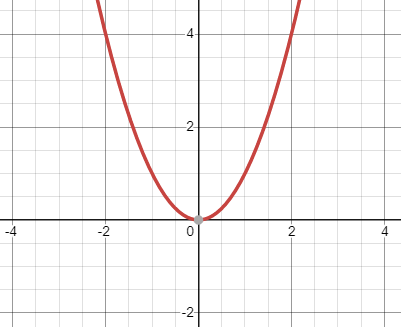
Complete the table to graph and label the given function in the space provided below:

y = x2 - 6x - 1

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **x** | ***f*(x)** | | -2 |  | | -1 |  | | 0 |  | | 1 |  | | 2 |  |   Graph the function here (2 points): Use this table (1 points):  Image result for blank axis grid"  **Answer these prompts** (1 point each):  Vertex Coordinate:  Axis of Symmetry:  y-intercept coordinate: |

**Question 3** Standard: A1.BF.A.1 Blooms: Analyze DOK: 2 Total Points: 2

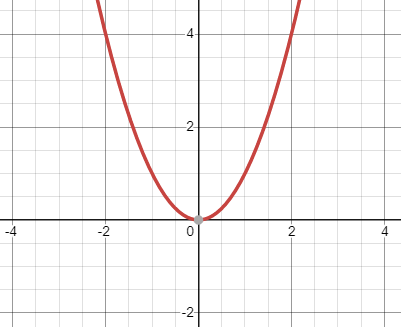
|  |
| --- |
| Give your explanation here (2 points): |

Describe in words how the function f(x) = x2 (shown below) changes to become the function g(x) = (x-3)2:

*f*(x) = x2

**Question 4** Standard: A1.IF.C.8 Blooms: Analyze DOK: 2 Total Points: 5

|  |
| --- |
| Work area:  **Answer the prompts below** (1 point each):  Vertex Coordinate:  Axis of Symmetry:  y-intercept coordinate: |

Sketch the function g(x) = (x-3)2 on the axis provided below:

*f*(x) = x2

Sketch your graph above (2 points)

**Question 5** Standard: A1.LQE.A.1 Blooms: Analyze DOK: 2 Total Points: 6

Analyze the tables below and assess what type of function they represent:

|  |  |  |
| --- | --- | --- |
| Circle your choices and show all of your work in the spaces provided below: | | |
| |  |  | | --- | --- | | **x** | ***f*(x)** | | -1 | 8 | | 0 | 4 | | 1 | 2 | | 2 | 1 | | 3 | 0.5 |   Circle one (1 point):  Exponential  Quadratic  Linear | |  |  | | --- | --- | | **x** | ***f*(x)** | | -2 | -8 | | -1 | -3 | | 0 | 2 | | 1 | 7 | | 2 | 12 |   Circle one (1 point):  Exponential  Quadratic  Linear | |  |  | | --- | --- | | **x** | ***f*(x)** | | -2 | 8 | | -1 | 2 | | 0 | 0 | | 1 | 2 | | 2 | 8 |   Circle one (1 point):  Exponential  Quadratic  Linear |
| Work/Rationale (1 points): | Work/Rationale (1 points): | Work/Rationale (1 points): |

**Question 6** Standard: A1.LQE.A.3 Blooms: Analyze DOK: 2 Total Points: 1

Analyze the table below and identify a function which best represents the data:

|  |  |
| --- | --- |
| **x** | ***f*(x)** |
| -1 | 1 |
| 0 | 0 |
| 1 | 1 |
| 2 | 4 |
| 3 | 9 |

1. Linear c) Exponential
2. Quadratic d) Cubic

**Question 7** Standard: 8.EEI.B Blooms: Analyze DOK: 2 Total Points: 2

|  |
| --- |
| Show ALL work necessary (1 points):  **Answer** (1 point): |

Simplify the following exponential expression using the rules for exponents as your guide:

(5x2y)2 (2xy2z)3 (4xyz2)

**Question 8** Standard: 8.EEI.B Blooms: Analyze DOK: 2 Total Points: 3

|  |
| --- |
| Show ALL work necessary (2 points):  **Answer** (1 point): |

Simplify the following exponential expression using the rules for exponents as your guide:

( )

2

b4c5

a-4 b-4 c3

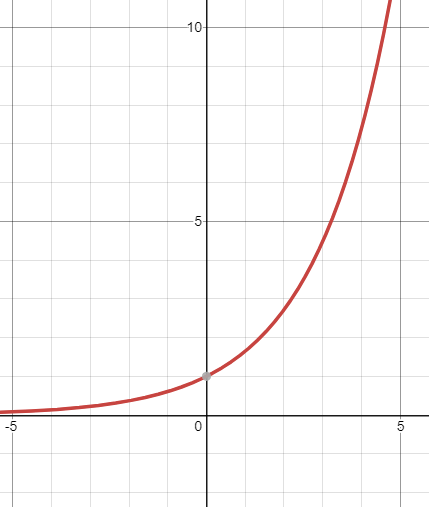
**Question 9** Standard: A1.NQ.A.1 Blooms: Analyze DOK: 2 Total Points: 2

Simplify the following exponential expression using the rules for exponents as your guide:

(16x2y4)1/2 (8x3y9z12)1/3

|  |
| --- |
| Show ALL work necessary (1 points):  **Answer** (1 point): |

**Question 10** Standard: A1.IF.C.7 Blooms: Analyze DOK: 2 Total Points: 2

Given the following graphic, analyze and determine the function which best describes the shape:

**Circle one** choice only (1 point):

a) Linear

b) Quadratic

c) Exponential

d) Cubic

What is the y-intercept coordinates? (1 point)

**Answer:** ( , )