Standard Form: $f\left(x\right)=ax^{2}+bx+c$

Vertex Form: $f(x)=a\left(x-h\right)^{2}+k$

Intercept Form: $f\left(x\right)=a(x-p)(x-q)$

**Find the quadratic function with the given information. Write the function in standard, vertex and intercept form. Use the graph or table to find a third point on the parabola. State the domain and range.**

1. Vertex $(2, 0)$ passing through $(1, 3)$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | f(x) |
|  |  |
|  |  |
|  |  |

2. Vertex$ (-3, 0)$ and $f\left(-5\right)= -4$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Input: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Output:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

****3. $f\left(1\right)= 7$ and $f\left(3\right)=7$ with a minimum of (2,5)

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent: \_\_\_\_\_\_\_\_\_\_\_\_\_ Dependent:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | f(x) |
|  |  |
|  |  |
|  |  |

4. Vertex $(0, 0)$ and $f\left(-2\right)= 8$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

****

5. Zeros at $\left(5, 0\right)$ and $(1,0)$and $f\left(0\right)= 1$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Input: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Output:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | f(x) |
|  |  |
|  |  |
|  |  |

6. Vertex $(4, 8)$ and passes through the origin

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent: \_\_\_\_\_\_\_\_\_\_\_ Dependent:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

****7. The maximum value of $g$ is $g\left(-1\right)=6$ and another point is $g\left(-3\right)=4$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Input: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Output:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | f(x) |
|  |  |
|  |  |
|  |  |

8. Zeros at $\left(5, 0\right)$ and $(1,0)$and $f\left(0\right)= 1$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Input: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Output:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

****9. Intercepts at $\left(-1,0\right)$ and $(5,0)$and $(0,15)$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dependent:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | f(x) |
|  |  |
|  |  |
|  |  |

10. Solutions at at $\left(2, 0\right)$ and $(-1,0)$and y-intercept at $(0,6)$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Input: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Output:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

****

11. Maximum at $\left(-2,9\right)$ and y-intercept at $-3$

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_

Exit Ticket

Complete and turn in before the end of class.

Find the quadratic function with the given vertex and point. Write the function in standard, vertex and intercept form. Use the graph to find a third point on the parabola. State the domain and range.

1. The function has a vertex at (-1, 9) and f(-4) = 0.

Standard Form:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertex Form:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intercept Form:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| x |  |  |  |
| f(x) |  |  |  |