1. **State the vertex, axis of symmetry, and the maximum or minimum values of the following functions (the first one is done for you):**

*Vertex: (0, -3)*

*Axis of symmetry: x= 0*

*Minimum value: y = -3 (min because graph opens up)*

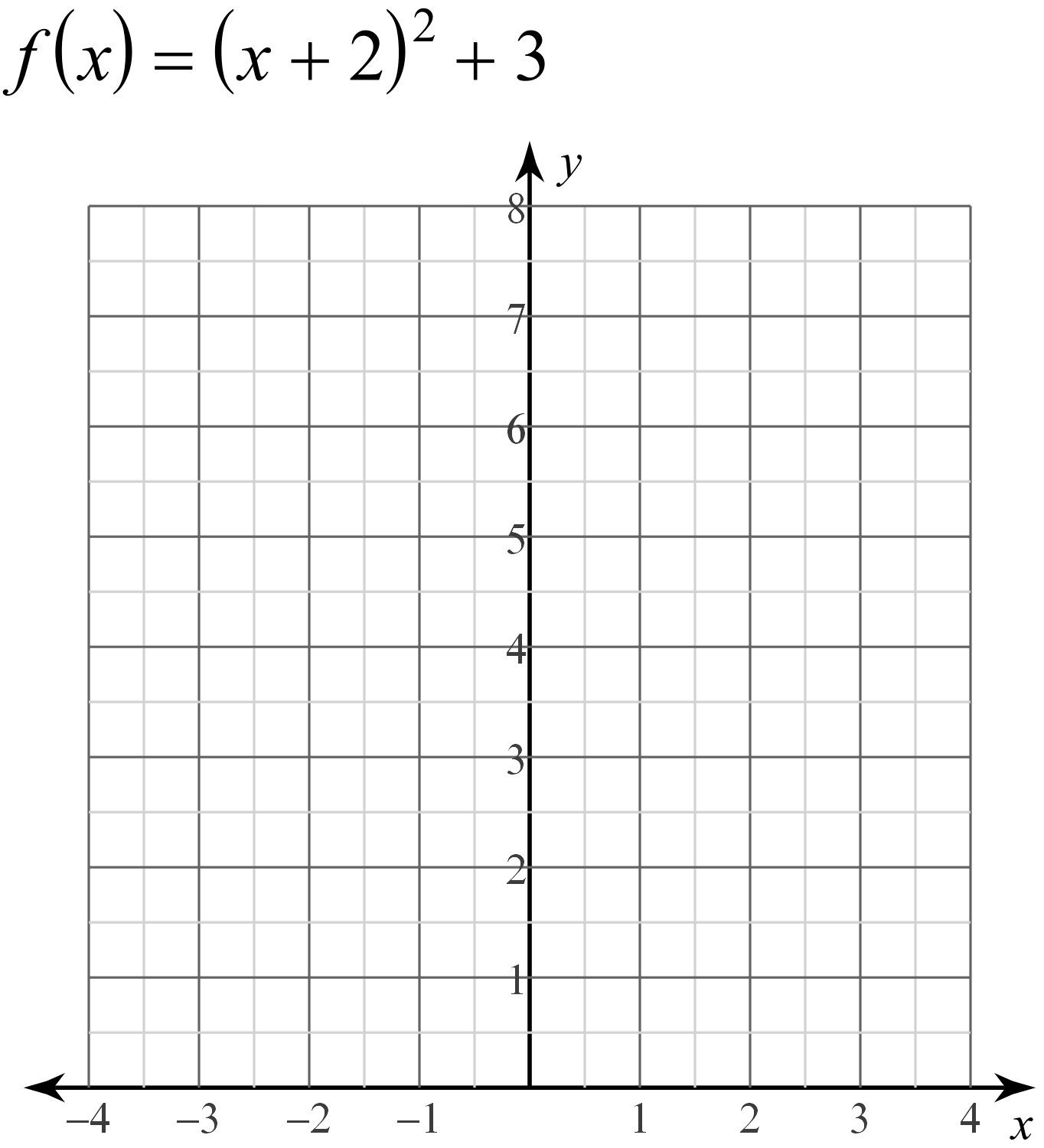
1. **Describe the transformations of the graphs compared to . (the first one is done for you)**

*Reflection across the x axis (opens down)*

*Vertical compression of 1/3*

*Shift right 4, shift down 3*

1. **Graph the following Functions. State the domain and range**

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1. **Rewrite to standard form. Find the axis of symmetry. Find the vertex.**

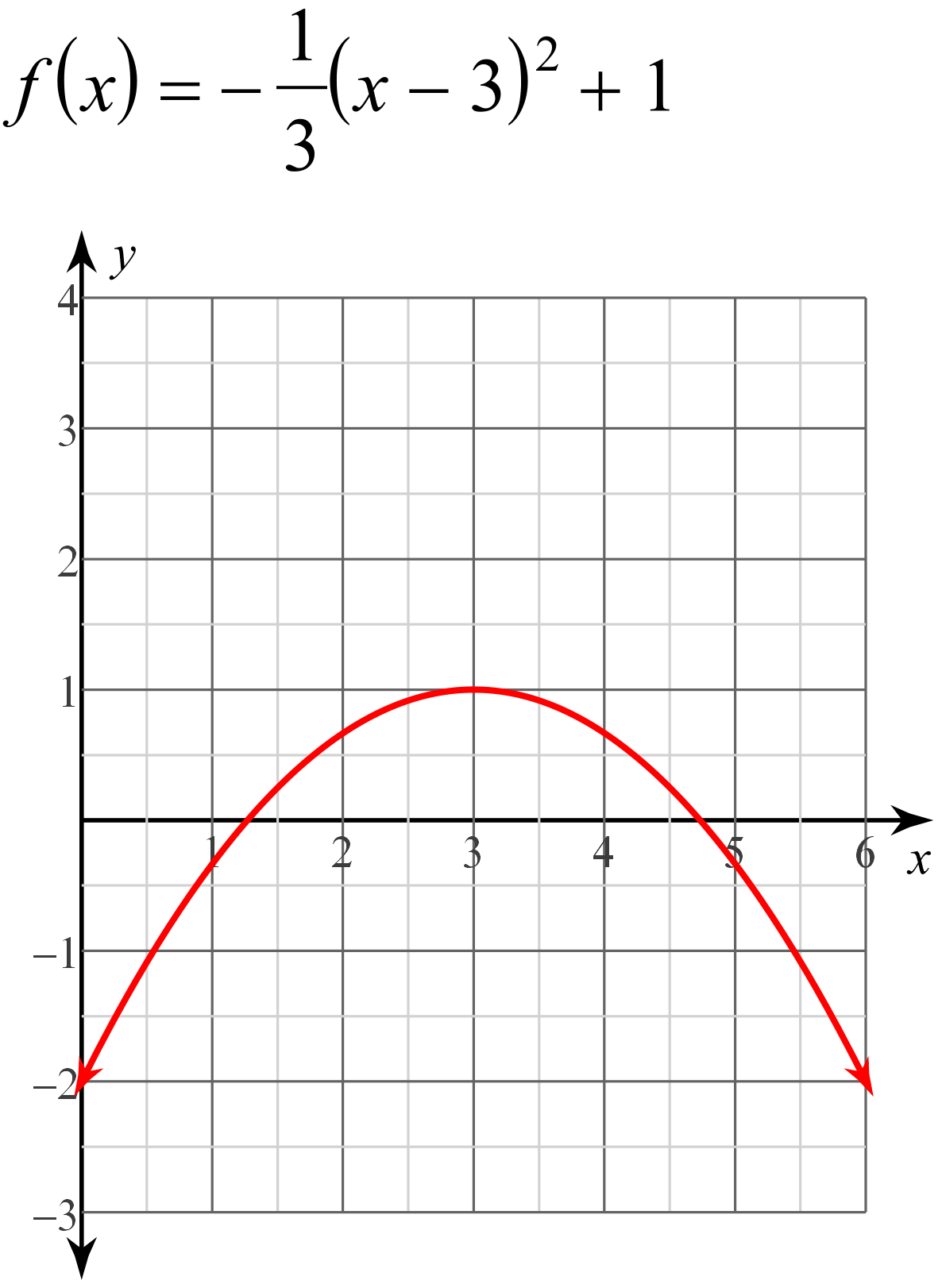
*axis of symmetry*

*Plug x = 1 into equation to find y*

*Vertex: (1,-1)*

1. **Rewrite vertex form to standard form. (first one is done for you)**

1. ***Write the equation from the graph***

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