

1. Write the equation of a parabola with a vertex of $(2, -1)$ and which opens downward.
2. list three points you might test to find the solution of $(x + 3)(x - 5) < 0$. Explain why you chose these points.
3. Write a system of equations with one linear equation and one quadratic equation for which $(2, 6)$ is a solution.
4. explain how the graph of $y = x^2$ can be used to graph any quadratic function. Include a description of the effects produced by changing a , h , and k in the equation $y = a(x - h)^2 + k$, and a comparison of the graph of $y = x^2$ and the graph of $y = a(x - h)^2 + k$ using values of your own choosing for a , h , and k .
5. explain how you can find the time a trampolinist spends above a certain height. Include a quadratic inequality that describes the time the performer spends more than 10 feet above the ground, and two approaches to solving this quadratic inequality.