## DEFINITION: A parabola is the set of points that are equal distance from the focus and the directrix.

1. Consider a general point on the parabola that is in green below. What is the distance between a general point and the directrix? You might want to remind yourself of how you determined that distance when you had a specific value for y like $\mathrm{y}=7$ or $\mathrm{y}=10$. Mark and label the distance between general point on the graph below.

2. Remind yourself of how you used the definition of a parabola and the Pythagorean Theorem to solve for the $x$-value for a known $y$-value (like $y=6$ or $y=10$ ). For the general case (just using $y$ ) represent the distances on the graph that you would need in order to use the Pythagorean Theorem method.
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