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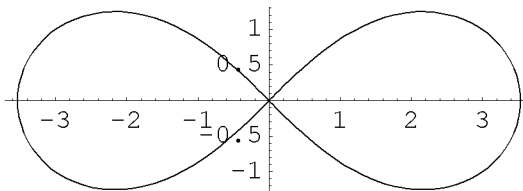
**Calculus Trimester 1 Quiz 2 (20 Points)**  
**Definition of limit**

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- This is a take home quiz. Here are the rules; [1] You may use your book and your notes while doing the quiz. [2] You may not discuss these questions with anyone until the quizzes have all been collected. [3] The quiz is due at the start of the next class which is noon Monday, Nov 5.

- Answer the following. (10 points each)

[1] The figure below is call a lemniscate. It has the equation  $2(x^2 + y^2)^2 = 25(x^2 - y^2)$ . Find the equation of the line tangent to the curve at (1, 1).



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[2] A ladder 10 ft long rests against a vertical wall. If the bottom of the ladder slides away from the wall at a rate of 1 ft/s, how fast is the top of the ladder sliding down the wall when the bottom of the ladder is 6 ft from the wall?