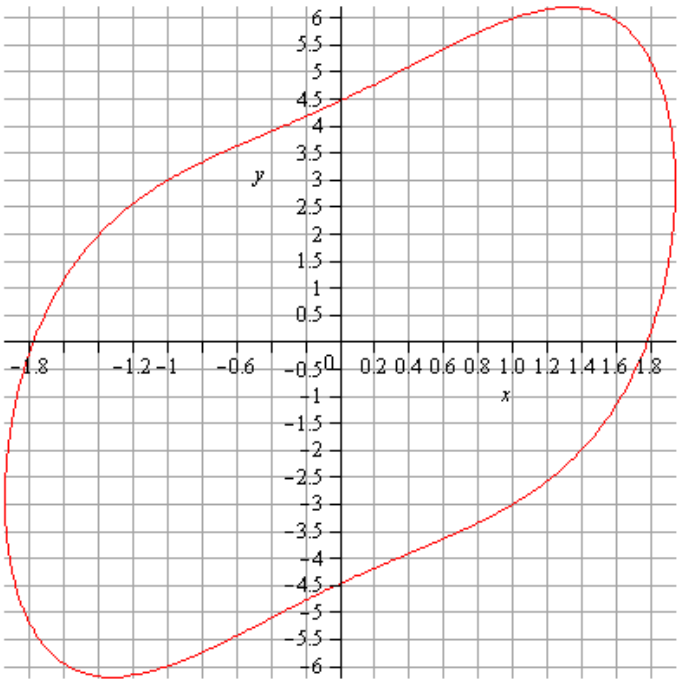
Name: _____ Points: _____

1. The figure below shows a portion of the graph $2x^4 - 3xy + y^2 = 20$. Find the equation of the tangent lines at the points $(1,6)$ and $(1,-3)$.



Prepared by Prof. Satyanand Singh
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2. Find $\frac{dy}{dx}$ given that $\sin(\pi(x+y))=0$. Sketch the graph of this equation.

3. The radius R and the height H of a circular cone change at a rate of 3cm/s. How fast is the volume of the cone increasing when $R=5$ and $H=15$?

4. The base of a right triangle increases at a rate of $5\ \ cm/s$, while the height remains constant at $25cm$. How fast is the angle between its base and its hypotenuse changing when the length of its base is $25cm$?