| MA 238-02 <br> §4.1,4.2,4.4,6.1 | QuiZ \#5 |  | score |
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1. A given pendulum begins its motion from the equilibrium position with varying initial angular velocities. The resulting phase plane curves are plotted below for $0 \leq t \leq 15$. Describe the pendulum and its motion in each of the three cases. (10 points)

2. The graph below on the left show the solution $y(t)$ of some differential equation. Sketch the graph of $y^{\prime}(t)$ versus $y(t)$ (the phase portrait) on another set of axes. (10 points)

