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02-06-25
AMATH 502

HOMEWORK 4

Exercises come from the assignment pdf on canvas

- 1:** For each of the following systems, find the fixed points, classify them, sketch (by hand, do not use any software such as **pplane**) the neighboring trajectories, and try to fill in the rest of the phase portrait

(a) $\dot{x} = x - y$ and $\dot{y} = x^2 - 4$

Solution:

TODO

(b) $\dot{x} = 1 + y - e^{-x}$ and $\dot{y} = x^3 - y$

Solution:

TODO

- 2:** 2.2.7

Solution:

TODO

- 3:** 2.2.8

Solution:

TODO

- 4:** 2.2.10

Solution:

TODO

- 5:** 2.2.13 (a,b,c,d)

Solution:

TODO

- 6:** 2.3.2

Solution:

TODO

- 7:** 2.3.6

Solution:

TODO

8: 2.4.7

Solution:

TODO