

Name _____

Python for Math and Stat Fall 2022 Final Exam

This exam is worth 75 points. Assume that all necessary packages have been imported. When done with the exam, please **scan and upload to Gradescope**, then hand in the paper version.

1. (12 pts) Let

```
arr = np.array([[ 7, 13,  3,  2],  
               [12,  6,  9,  5]])
```

For the following 4 problems, write down what each code block would display if executed in a Jupyter cell.

(a) `arr[1, ::-1]`

(b) `arr[:, 3] ** 2`

(c) `arr[arr // 10 > 0]`

(d) `(lambda x: x+10)(arr[1, 2:])`

7. (19 pts)

(a) Create a class called `Point`. Each object in the class represents a point in the xy -plane. It has two attributes:

- `x`: the x -coordinate of the point
- `y`: the y -coordinate of the point

and the following methods:

- `dist(pt)`

