

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]`

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

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(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)`

