

Name: _____

MATH 320: QUIZ 1

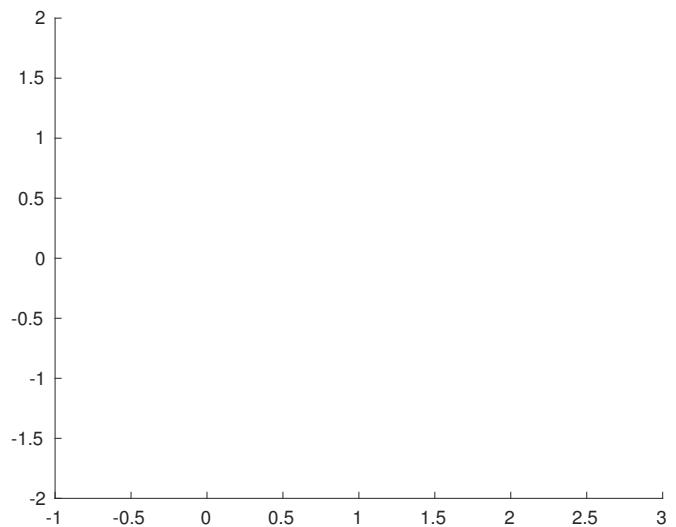
- (1) (3 points) Review the code, and write down MATLAB's output.

```
x = 3;
seq = [x];
while (x > 1)
    if (rem(x,2) == 0) %rem(x,y) = remainder of x/y
        x = x/2;
    else
        x = 3*x + 1;
    end
    seq = [seq x];
end
disp(seq)
```

Output:

- (2) (3 points) Draw (an approximation of) the plot output by the following MATLAB commands.

```
A = [1 2];
B = [1 1];
T = linspace(-pi,0,100)
X = 1.5 + cos(T);
Y = sin(T);
plot(A,B,'*',X,Y)
axis([-1,3,-2,2])
```



- (3) (4 points) Below is partial code for a function called `pascal` that takes input `n` and returns the first `n` rows of the Pascal triangle in an $n \times n$ square matrix with zeros above the diagonal. One definition of Pascal's triangle is that $P_{i,1} = 1$ and $P_{i,j} = P_{i-1,j} + P_{i-1,j-1}$ for $j \neq 0$.

Please:

- Comment the code where indicated by % signs.
- Fill in MATLAB code above each empty underline.
- Evaluate `pascal(5)`.

```
function P = pascal(n)
%
%
P = _____ ; %Initializes P as an n x n Zero Matrix

for i=_____
    P_____ = 1;
    for j= _____
        P(i,j) = _____ ;
    _____
_____
_____
_____
_____
_____
pascal(5) =
```