

Problem 1 (20 points)

- a. Part 1
  - i. Correct plot - 3 points
- b. Part 2 / 3
  - i. Correct approximator for ReLU - 3 points
  - ii. Correct plot - 14 points

**In general for this question:**

- If you are missing any of the delta values, 2 points were deducted for each.
- If your graphs were slightly off, 2-3 points were deducted for each.
- If the code has the right idea but the graphs don't reflect this at all, half credit was given.

Problem 2 (30 pts)

- a. Part 1
  - i. Correct gradient for L - 5 points
- b. Part 2
  - i. Correct gradient for a2 - 5 points
- c. Part 3
  - i. Correct gradient for b2 - 4 points
- d. Part 4
  - i. Correct gradient for W2 - 5 points
- e. Part 5
  - i. Correct gradient for h1 - 5 points
- f. Part 6
  - i. Correct gradient for W1 and b1 - 4 points (2pts each)
- g. Part 7
  - i. Correct explanation - 2 points

**In general for this question:**

- 3-4 points were deducted if the gradient was correct, but not expressed in terms of W, x, h, and b as the question stated (depending on how many parts).