

## Brief answer to selected problems in HW01

1. Section 2.3: Problem 35.

Take  $\delta = \min(3 + \frac{3.5^2-1}{-5}, -(3 + \frac{4.5^2-1}{-5}))$ . It will work for  $\varepsilon = 0.5$ .

2. Section 2.3: Problem 49.

Taking  $\delta = \varepsilon$  will do.

3. Section 2.3: Problem 53.

The function  $f(x) = x^2$ , if  $x \neq 0$  with  $f(0) = -1$  satisfies the statement with  $x_0 = 0$  and  $L = -1$  but the limit is not  $L$ .