

Limits Homework Answers (Stewart 6th ed.)

2.4 (Not all of these are assigned. I included extra if you want practice.)

① $\delta = 4/7$ ② $\delta = 0.7$ ③ $\delta = 1.44$ ④ $\delta = 0.224$ ⑤ $\delta = 0.0906$ ⑥ $\delta = \frac{1}{3}$

⑮ $\delta = \epsilon/2$ ⑯ $\delta = 2\epsilon$ ⑰ $\delta = \epsilon/4$ ⑱ $\delta = \epsilon/3$ ⑲ $\delta = 5\epsilon$ ⑳ $\delta = 4\epsilon$

㉑ $\delta = \epsilon$ ㉒ $\delta = \epsilon/2$ ㉓ $\delta = \epsilon$ ㉔ δ can be anything ㉕ $\delta = \sqrt{\epsilon}$

㉖ $\delta = \sqrt[3]{\epsilon}$ ㉗ $\delta = \epsilon$ ㉘ $\delta = \epsilon^4$ ㉙ $\delta = \sqrt{\epsilon}$ ㉚ $\delta = \min\{1, \epsilon/8\}$ ㉛ $\delta = \min\{1, \epsilon/5\}$

㉜ $\delta = \min\{1, \epsilon/19\}$

2.4

⑨ $\delta \approx 0.031$ ⑩ $\delta \approx 0.010$ ⑪ $\delta \approx 0.065$ ⑫ $\delta = \frac{1}{10}$ ⑬ $\delta = \frac{1}{\sqrt{M}}$ ⑭ $\delta = e^M$

2.6

① $N = 15$ ② $N = 3, N = 19$ ③ $N = -6, N = -22$ ④ $N = 2500$

⑤ ① $x > 100$, ② $N = \frac{1}{\sqrt{\epsilon}}$ ⑥ ① $x > 10^8$, ② $N = \frac{1}{\epsilon^2}$

⑦ $N = -\frac{1}{\epsilon}$ ⑧ $N = \sqrt[3]{M}$ ⑨ $N = \ln M$ or $N = \max\{1, \ln M\}$

↑ so N is positive