

Math 114 Spring 2019
Calculus I HW 1
Due Wednesday, January 30
(Updated Jan 25)

1. Give a zeroth-order approximation to $\sqrt[3]{30}$. Explain your answer in a few words.
2. Give a zeroth-order approximation to $\tan(.03)$. Explain your answer in a few words.
3. Stewart 1.4.12
4. Stewart 1.4.14
5. Stewart 1.4.18
6. Stewart 1.4.22
7. Stewart 1.4.24
8. Stewart 1.4.26
9. (★) Stewart 1.5.6
10. (★) Stewart 1.5.8
11. Stewart 1.5.16

12. Let

$$f(x) = \begin{cases} x + 3 & x > 2 \\ x^2 + 1 & x < 2 \end{cases}$$

Define a function that extends f and is continuous at all real numbers.

13. Let

$$g(x) = \begin{cases} x^2 - 5 & x > -1 \\ 4x & x < -1 \end{cases}$$

Define a function that extends g and is continuous at all real numbers.

14. Stewart 1.5.30