

Complete the following problems and upload your solutions to the D2L dropbox by 5:00 PM on Monday, 20 February 2017.

1. (5 points) Use the `bisect` function to find the positive root of

$$3.06 = \frac{(1-x)\sqrt{3+x}}{x\sqrt{1+x}}$$

2. (7 points) Use the `bisect` function to find the *four* roots of

$$\sin(\theta^2) = 0.09 + 2\theta - \theta^2$$

3. (8 points) Use the `bisect` function to find the *first five* positive roots of

$$1 - z \cot(z) = \text{Bi}$$

for  $\text{Bi} = 5$ .

*Hint:* For some problems you may need to adjust the convergence tolerance to avoid the warning message from `bisect`.