

- (A) Problem 1, page 124 of the MATH-171 text.

Part of your solution should be a plot showing the region whose area you are finding. Your answer is a decimal approximation to the true area.

- (B) Find the area of the region bounded by the graphs of the functions $f(x) = x(x - 1)(x - 2)$ and $g(x) = \sin(x)$.

Again, your solution should include a plot showing the region whose area you are finding. Your answer is a decimal approximation to the true area.

- (C) If you graph the sine and cosine, you will see the first-quadrant region \mathcal{R} , bounded by the y -axis, the graph of the sine, and the graph of the cosine.

Find an equation for the vertical line that divides \mathcal{R} into two parts with equal areas. Again, your answer must be a decimal approximation.