Math 3710   HOMEWORK #12   Name:

Due 11/17/2023, 8:30 a.m., before start of the class.

Solve the following problems and staple your solutions to this cover sheet.

1. Sec 4.3 #1(b)
   Note: You may use the Review, Identities, Formulas and Theorems handout. You may use Mathematica.

2. Sec 4.3 #2(b)
   Note: You may use Review, Identities, Formulas and Theorems. You may use Mathematica.

3. Sec 4.5 # 1
   Note: Add the following continuity and boundedness conditions: $v(r, -\pi) = v(r, \pi)$, $\frac{\partial v}{\partial \theta}(r, -\pi) = \frac{\partial v}{\partial \theta}(r, \pi)$ and $v(0, \theta)$ bounded. Show main solution steps and find the constants. Hint: See the class notes.

4. Sec 4.5 # 2
   Note: It is not necessary to repeat solution steps of problem 1.

5. Sec 4.5 # 8
   Note: Use the result of exercise 5(a) in section 1.10, not exercise 1.

6. Sec 4.5 # 9
   Hint: Differentiate term-by-term.

7. Sec 4.5 # 11

8. Free points!

9. Free points!

10. Free points!