

MATE 6540 assignment 7

22.

- (a) In R^n , where $n \geq 2$, let H be the hyperplane of equation $x_n = 0$. Then $R^n \setminus H$ has two arcwise connected components.
- (b) Let $n \geq 3$, and let E be the subspace of R^n of equations $x_1 = x_2 = 0$. Then $R^n \setminus E$ is arcwise connected.

23. Exercise 2 of Chapter X, p. 135 in Dixmier.

24. Exercise 4 of Chapter X, p. 135 in Dixmier.

25. Exercise 2 of III.2, p. 117 of Gamelin-Greene.

26. Exercise 3 of III.2, p. 118 of Gamelin-Greene.

Points: 8 + 6 + 6 + 6 + 6