

1. Book problems:

4.6: 1, 3

5.4: 5

2. Sketch (with labels) the region onto which the rectangle, R , $0 \leq x \leq 1$, $0 \leq y < \pi$, in the z -plane ($z = x + iy$) is mapped by the transformation $w = e^{2z}$.

3. Sketch (with labels) the region onto which the sector $1 \leq r \leq 2$, $0 \leq \theta \leq \pi/2$ in the z -plane ($z = re^{i\theta}$) is mapped by the transformation $w = \frac{1}{z^2}$.