Solutions for Placement Test

1. $f(0) = e^{-0} - 0 = 1 > 0$ and $f(1) = e^{-1} - 1 < 0$.

2. $\gamma = \frac{\sqrt{\pi}}{2}$, $\Gamma(\frac{1}{2}) = 2\gamma = \sqrt{\pi}$, $\Gamma(\frac{3}{2}) = \frac{1}{2}\Gamma(\frac{1}{2}) = \frac{\sqrt{\pi}}{2}$.

3. $P_A(x) = x^2 + 4x + 3$, $\lambda(A) = \{-1, \ -3\}$, $\sigma(A) = \{3, \ 1\}$,

4. 0 for (a), (b), (c) and π for (d), (e).