Homework # 2

Problems: 5.4, 5.5, 5.7, 5.9, 5.10, 5.12 (skip N), 5.34
Bonus problem 5.13 ( 3 points)

Answers

5.4 (a) \( \frac{1}{\sqrt{2}} \)
(b) \( \frac{1}{2} \)

5.5 (b) Distinguishable particles
Identical bosons
\[ E_{22} = 8K \quad E_{13} = E_{31} = 10K \]
Identical fermions
\[ E_{(13)} = 10K \quad E_{(23)} = 13K \]

5.9 (a) 27.2 eV

5.34
\[ E_p = \frac{\pi \hbar^2 \xi}{m} \]