Hints for the recommended exercises in Appendix D, Chapter 1

1. By the put call parity and the fact that $P \geq 0$ we have $C \geq S - Ke^{-r(T-t)}$. Moreover $C \leq S$ (see property (ix) in Chapter 1). Remark: To finish the proof you have to assume that $r > 0$

3. Property (ix)

5. Draw $V(T)$ as a function of $S(T)$. By inspecting this graph you will see that $V(T) = (K - S(T))_+ + (S(T) - K)_+ - (S(T) - 2K)_+$. Conclude using the dominance principle

6. Follows the hint for Exercise 5