Problem Set 4 – revised version

1. Book, 7.12 . $[MODEXP \in \mathrm{P}]$

2. Book, 7.14 .   [P is closed under star]

3. Book, 7.17 .   [if P = NP then nearly all in P are NP–complete]

4. Book, 7.26 .   [$PUZZLE$ is NP–complete]

5. Book, 7.32 .   [U is NP–complete]
   NOTE: The book has a typo on this problem. It should say "NTM M" instead of "TM M".

6. Book, 7.37 .   [if P = NP then can factor in polynomial time]

7.⋆ Book, 7.49 .   [resolution and $2SAT$]

18.404J / 18.4041J / 6.840J Theory of Computation
Fall 2020