# Problem Set 5

1. Book, 7.24 .    [$\neq SAT$ is NP–complete]

2. Book, 7.25 .    [$MAX\text{–}CUT$ is NP–complete]

3. Book, 8.15 .    [$HAPPY\text{–}CAT \in$ P]

4. Book, 8.10 .    [go-moku is in PSPACE]

5. Book, 8.8 .    [$EQ_{\mathrm{REX}} \in$ PSPACE]
   (Hint: you'll need one or more of the theorems we've proved)

6. Book, 8.13 .    [$A_{\mathsf{LBA}}$ is PSPACE–complete]

7.$^\star$ Book, 7.35 .    [NP–complete DFA construction problem]

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