Solve the following problems from Srednicki.

1 (12 points) Prove all (not just the last of) identities listed as Eq. (40.36) on page 257 of Srednicki.

2 (12 points) Prove all (not just the last of) identities listed as Eq. (40.37) on page 258 of Srednicki.

3 (12 points) Prove all (not just the last of) identities listed as Eq. (40.40) on page 258 of Srednicki.

4 (12 points) Prove all (not just the last of) identities listed as Eq. (40.41) on page 258 of Srednicki.

5 (12 points) Prove all (not just the last of) identities listed as Eq. (40.46) on page 259 of Srednicki.

6 (12 points) Prove all (not just the last of) identities listed as Eq. (40.47) on page 259 of Srednicki.

7 (20 points) Solve Problem 40.1 on page 260 of Srednicki.

8 (8 points) Prove Eq. (41.25) on page 265 of Srednicki.