37. (a) Herstein, II.4, #16. Hint: in $x^2$, each element $a_i$ can be paired with its inverse.
(b) Herstein, II.4, #17.

38. (a) Herstein, II.4, #39.
(b) Herstein, II.4, #40.

39. Herstein, II.4, #41.

40. (a) Herstein, II.4, #43(a, c).
(b) (EXTRA CREDIT) II.4, #43(b).

41. (a) Herstein, III.2, #2.
(b) Herstein, III.2, #3.

42. Herstein, III.2, #6.