

Section 3.1 #2, 4, 26, 28, 38, 46, 49. In #49, it's asking whether the equation  $\det(A + B) = (\det A) + (\det B)$  always holds (not sometimes holds). Try "random"  $2 \times 2$  examples by hand until you think you have the answer.

Section 3.2 #21.

Section 3.3 #21.

Finally, suppose that  $U$  is an  $n \times n$  orthogonal matrix. What values could  $\det U$  possibly have? Explain.