Book exercises, page 38: #1, 3, 4, 5, 6.
Note that the book sometimes uses the abbreviation ‘iff’ for ‘if and only if’.

One additional problem:

A1. If $x_0$ and $x_1$ are points in the same path component of a space $X$, construct a bijection (one-to-one correspondence) between the set of homotopy classes of paths in $X$ from $x_0$ to $x_1$ and the fundamental group $\pi_1(X, x_0)$. 