Differential Topology

1st and 2nd Problem Sets
Due Esfand 16th, 1397

- Let X and Y be two path-connected topological spaces and x, y be two points in X and Y, respectively. Prove that $\pi_1(X \times Y, (x, y))$ is isomorphic to $\pi_1(X, x) \times \pi_1(Y, y)$.

- Problems 4, 5, 6, 11, 13, 14, 24 and 27, pages 77-80 from [H].

- Problem 2, page 138 from [B].

- Problem 4, page 154 from [B].

- Problems 3 and 5, page 158 from [B].

References

[B]   Bredon, G. E., *Topology and geometry*, Graduate Texts in Mathematics, Springer.

[H]   Hatcher, A., Algebraic Topology. Cambridge University Press, 2002.

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