Expander graphs and group theory

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Definitions of expander graphs, Cheeger-Buser inequality, Expander mixing lemma, Alon-Boppana Theorem, Existence of expander graphs (non constructive proof), Application of expander graphs to error-correcting codes, Groups – basic concepts (actions, Cayley graphs, normal subgroups, unitary representations), Margulis expanders, Kazhdan property (T) – definition, hereditary properties, relation to expander graphs, other constructions of expander graphs.