

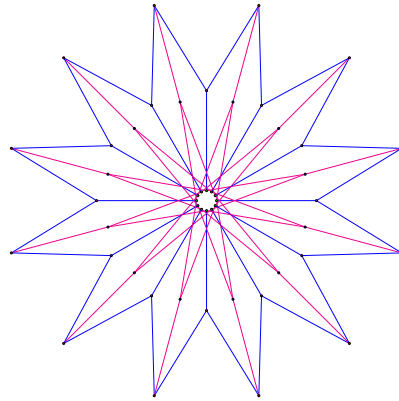
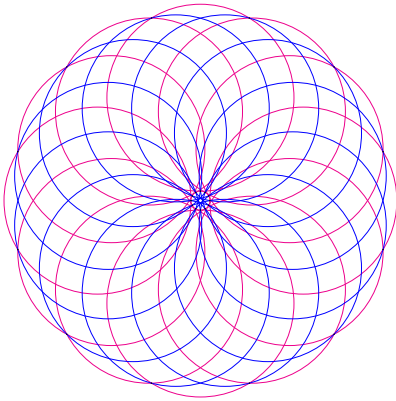


The ADAM graph and its configuration¹

It is well-known that exactly seven of the generalised Petersen graphs are symmetric (= arc-transitive), namely the following:

- $G(4, 1)$ – the cube graph,
- $G(5, 2)$ – the Petersen graph,
- $G(8, 3)$ – the Möbius-Kantor graph,
- $G(10, 2)$ – the dodecahedron graph,
- $G(10, 3)$ – the Desargues graph,
- $G(12, 5)$ – the Nauru graph, and
- $G(24, 5)$ – the graph that we hereby name *the ADAM graph*.

Both $G(8, 3)$ and $G(10, 3)$ are associated with point-line configurations: $G(8, 3)$ is the Levi graph (= incidence graph) of the Möbius-Kantor (8_3) configuration, while $G(10, 3)$ is the Levi graph of the Desargues (10_3) configuration. A point-circle configuration is called an isometric configuration if all circles have the same radius, and a graph drawn in the plane is called unit-distance graph if all straight edges have the same length.



The above figures depict an isometric point-circle configuration (24_3) on the left, whose Levi graph is the generalised Petersen graph $G(24, 5)$ drawn as the unit-distance graph on the right. The central detail has been adopted as the logo of our new journal, *The Art of Discrete and Applied Mathematics*, and because its abbreviation is ADAM, we propose that the generalised Petersen graph $G(24, 5)$ and the corresponding (24_3) configuration be called respectively the *ADAM graph* and the *ADAM configuration*.

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Editors In Chief

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