The Coxeter Graph

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1. Start with the 6-prism given a 3-edge colouring so that all the "spokes" are one colour, each of the two 6-cycles alternates colour and each 4-cycle contains all three colours. Call the three colours "solid", "dashed" and "thick".
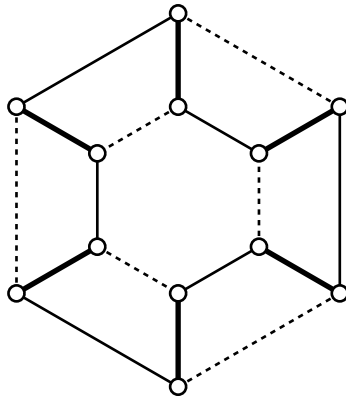

Figure 1: Stage One

2. Subdivide each of the "spoke" edges and join each opposite pair of new vertices with an edge.
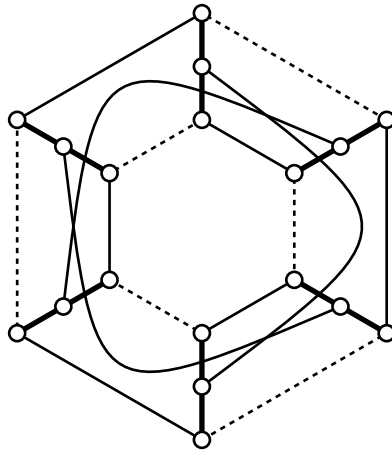

Figure 2: Stage Two

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3. Subdivide each of the dashed edges, and join each opposite pair of new vertices with an edge, which is itself immediately subdivided.
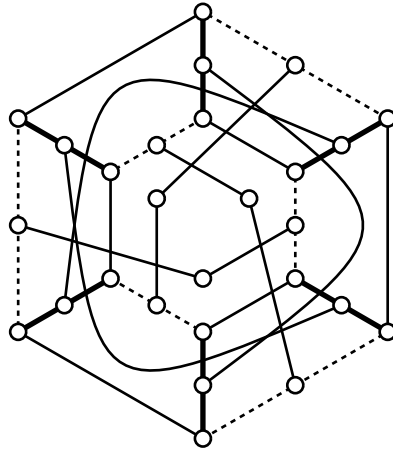

Figure 3: Stage Three

4. Create one additional vertex, and join it to the three vertices created at the final stage of the previous step.
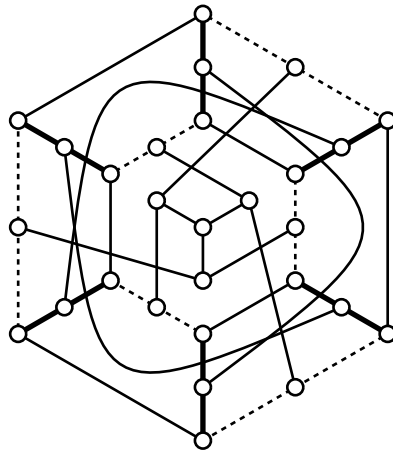

Figure 4: Stage Four

Then the resulting graph is the Coxeter graph.