2-uniform tilings with regular polygons and regular star polygons

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This document lists edge-to-edge 2-uniform tilings with regular polygons and regular star polygons in the sense of *Tilings and Patterns* section 2.5. Although the hand enumeration resulting in this list of 38 individual tilings and 5 infinite families (each determined by one variable angle) is intended to be complete, it has not been double-checked and should be treated with caution. No attempt has been made to identify which tilings appear where in previous literature.
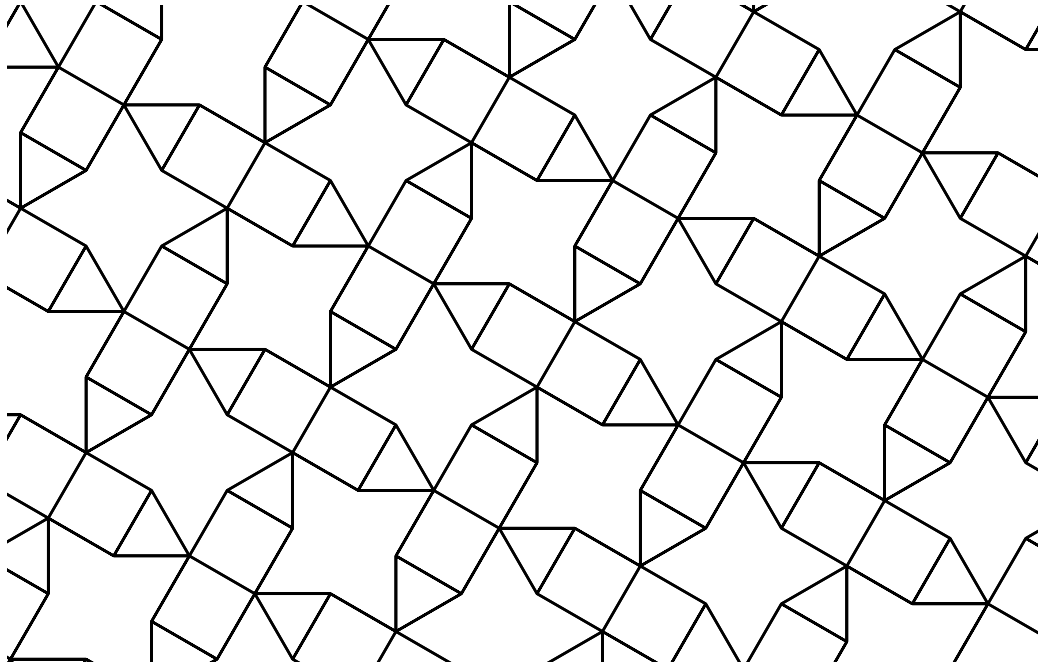
Figure 1: Tiling $(3 \cdot 4 \cdot 4^{**}_{\pi/3}; 3 \cdot 4^{*}_{\pi/3} \cdot 4 \cdot 4 \cdot 4^{*}_{\pi/3})$
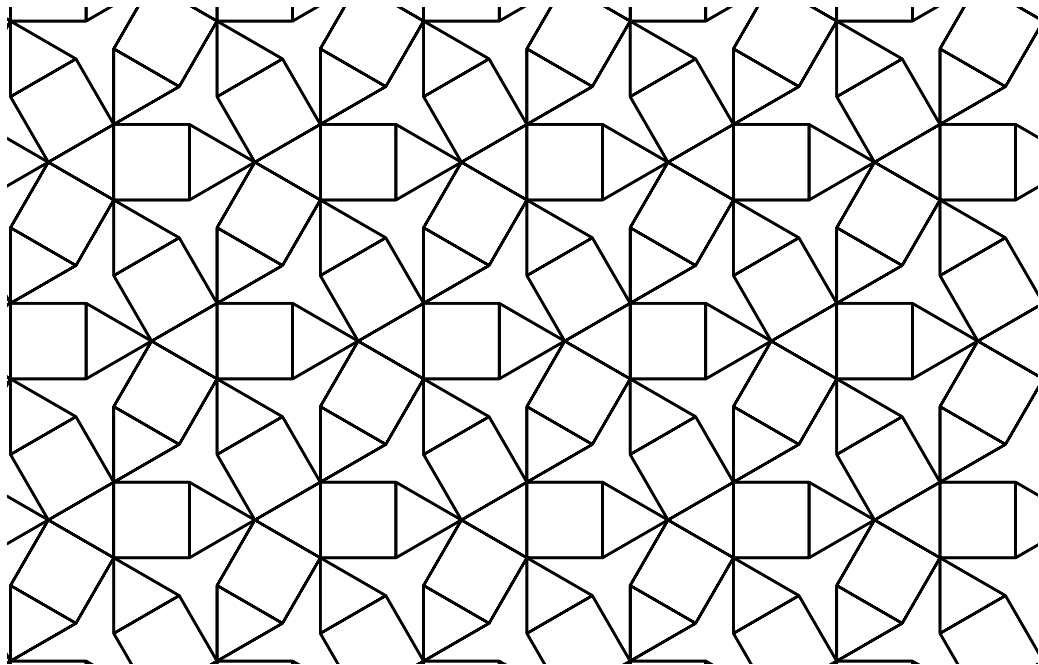
Figure 2: Tiling $(3 \cdot 4 \cdot 3^{**}_{\pi/6}; 3 \cdot 4 \cdot 3^{*}_{\pi/6} \cdot 3 \cdot 3^{*}_{\pi/6} \cdot 4)$
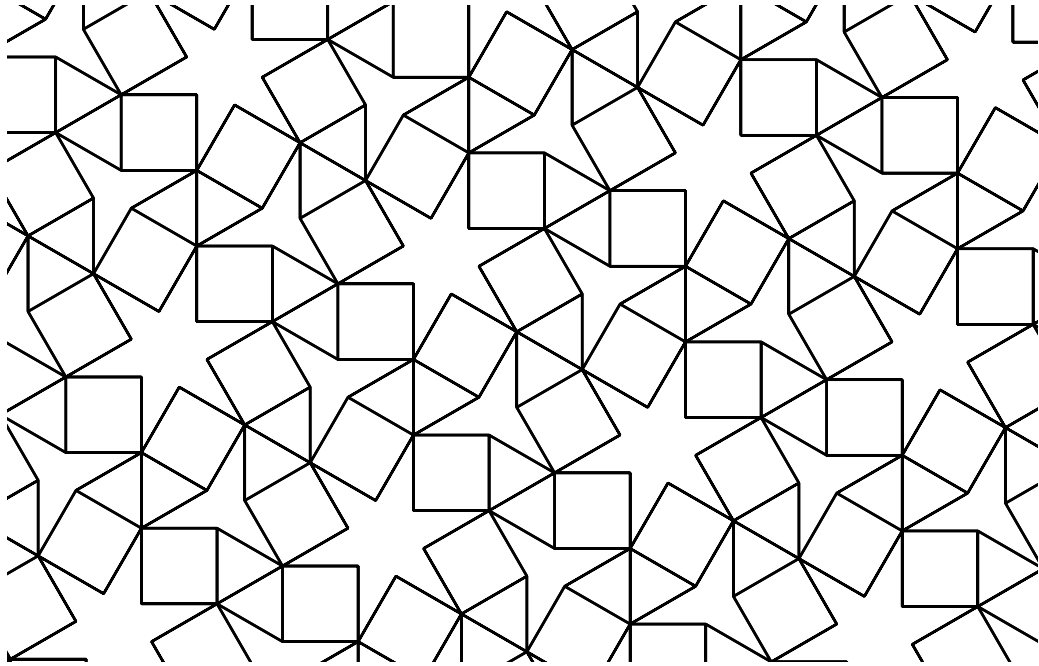
Figure 3: Tiling $(3 \cdot 4 \cdot 3^{**}_{\pi/6}; \, 3 \cdot 3 \cdot 4 \cdot 6^{*}_{\pi/6} \cdot 4 \cdot 3^{*}_{\pi/6})$
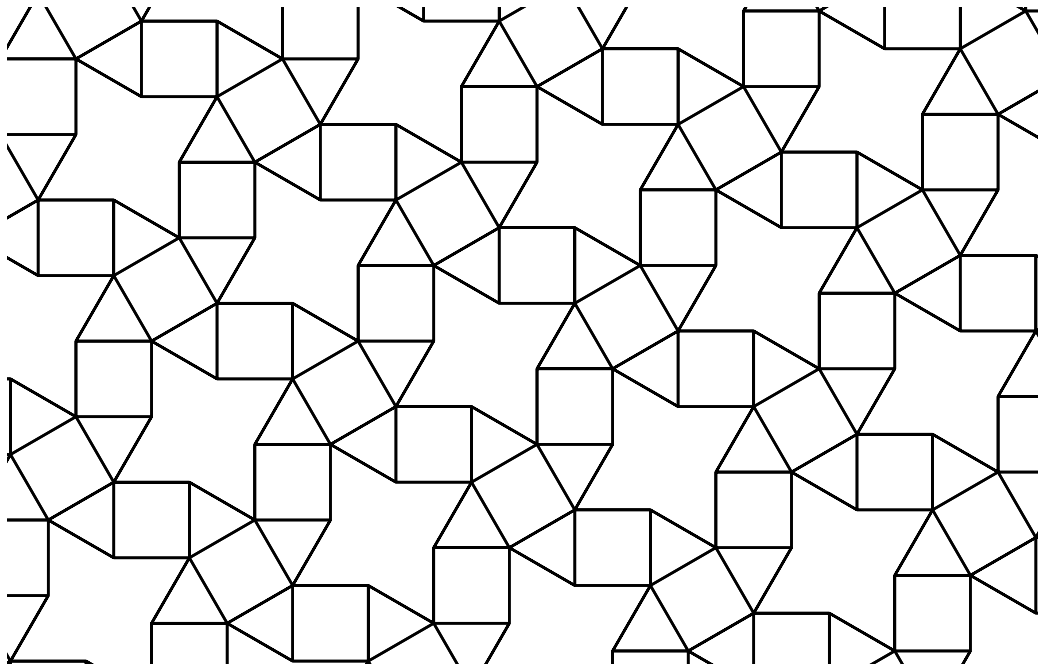
Figure 4: Tiling $(3 \cdot 4 \cdot 4^{**}_{\pi/3}; \, 3 \cdot 4 \cdot 3 \cdot 4 \cdot 4^{*}_{\pi/3})$
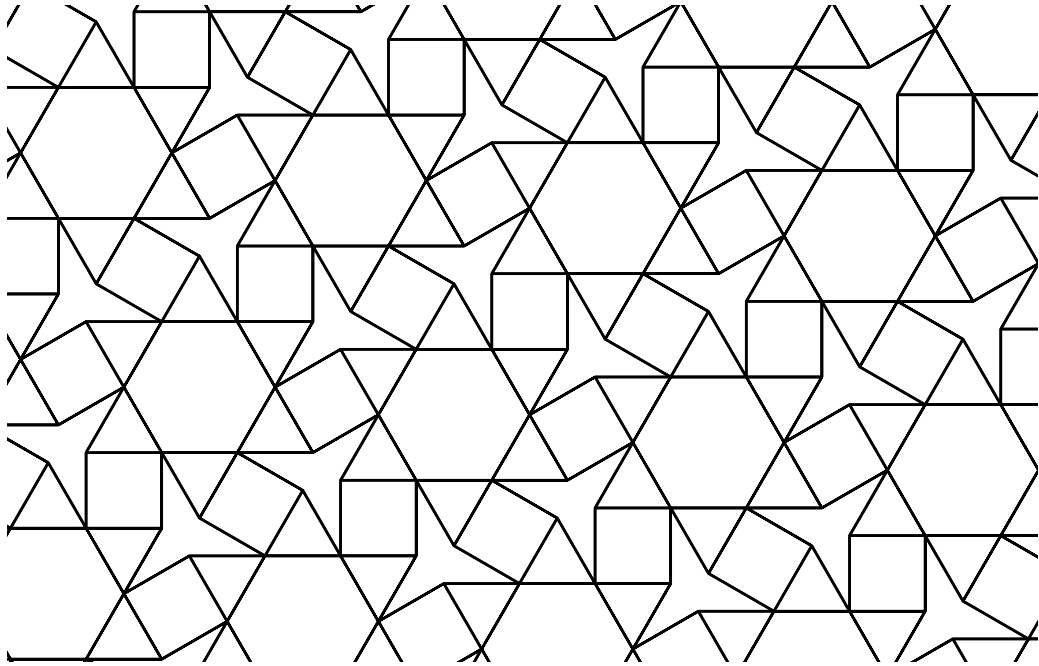
Figure 5: Tiling $(3 \cdot 4 \cdot 3^{**}_{\pi/6}; 3 \cdot 4 \cdot 3^{*}_{\pi/6} \cdot 3 \cdot 6)$
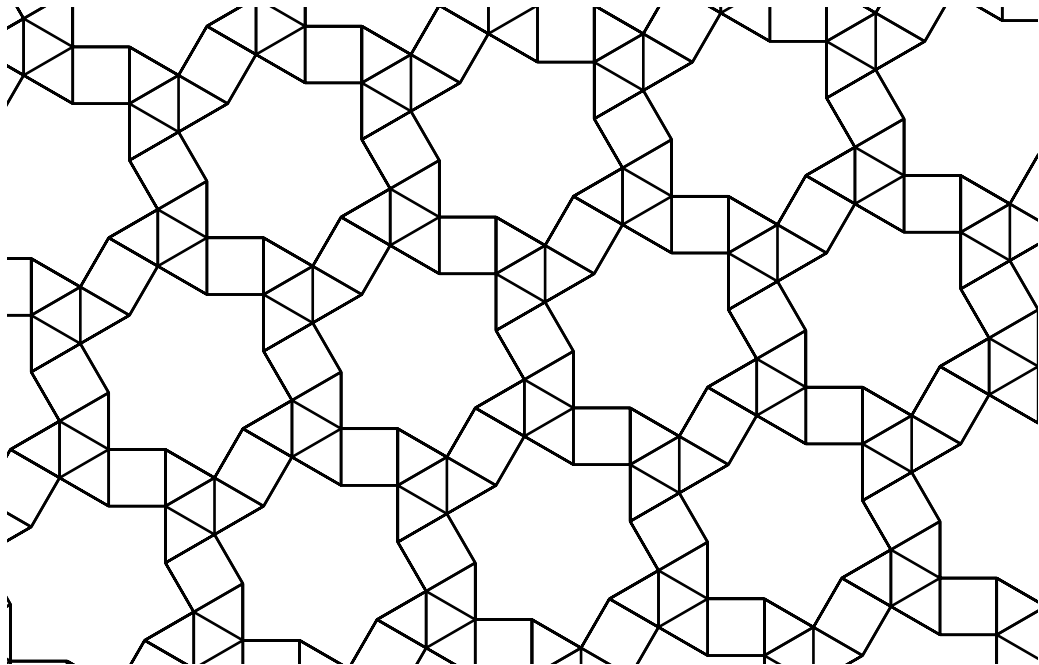
Figure 6: Tiling $(3 \cdot 4 \cdot 6^{**}_{\pi/2}; 3 \cdot 3 \cdot 3 \cdot 4 \cdot 6^{*}_{\pi/2})$
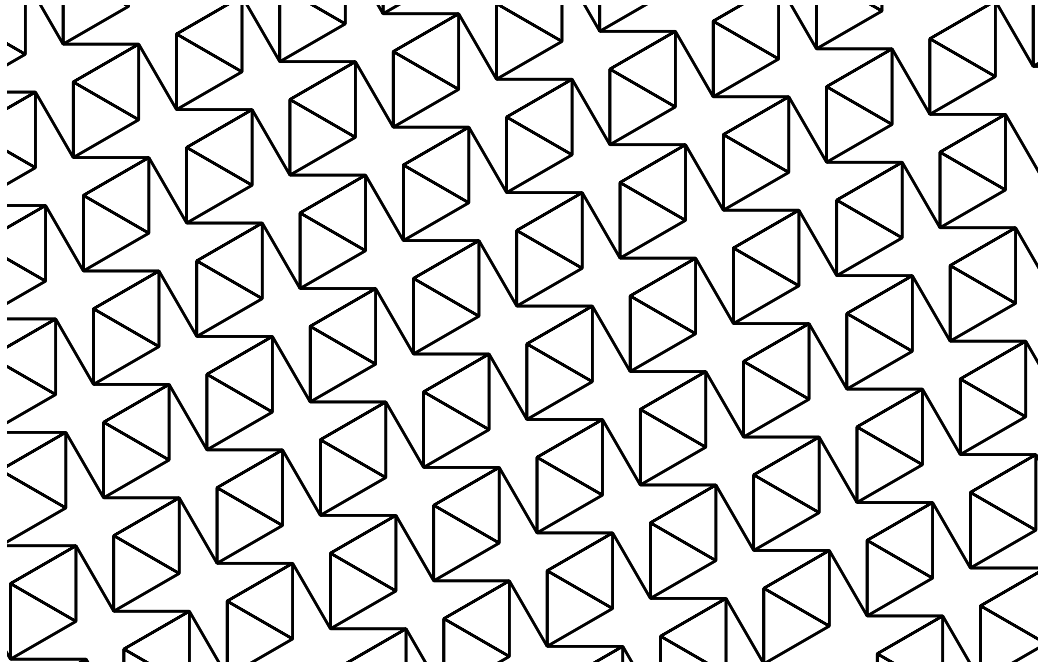
Figure 7: Tiling $(3 . 3 . 4^{**}_{\pi/6}; 3 . 4^{*}_{\pi/6} . 4^{**}_{\pi/6} . 4^{*}_{\pi/6})$
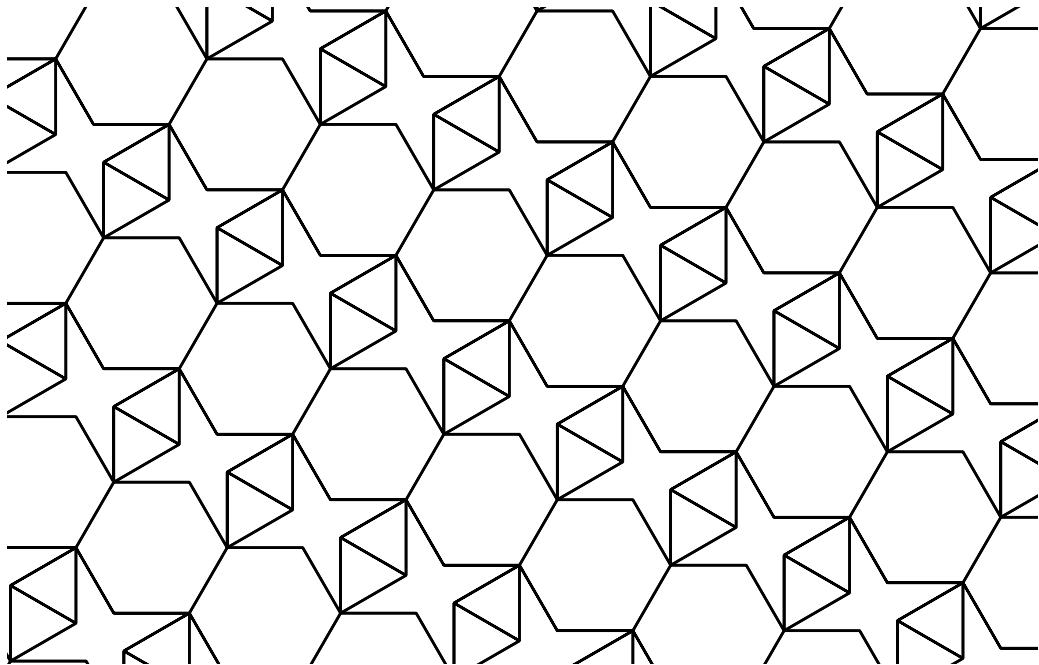
Figure 8: Tiling $(3 . 3 . 4^{**}_{\pi/6}; 3 . 4^{*}_{\pi/6} . 6 . 6 . 4^{*}_{\pi/6})$
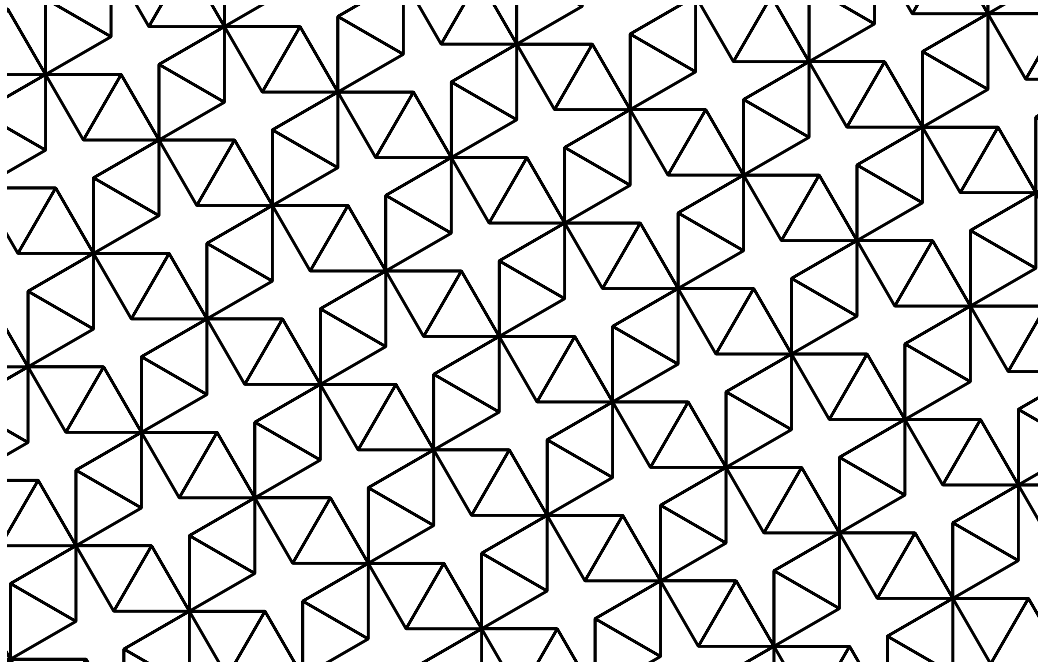
Figure 9: Tiling $(3 \cdot 3 \cdot 4^{**}_{\pi/6}; 3 \cdot 4^*_{\pi/6} \cdot 3 \cdot 4^*_{\pi/6} \cdot 3 \cdot 4^*_{\pi/6} \cdot 3 \cdot 4^*_{\pi/6})$
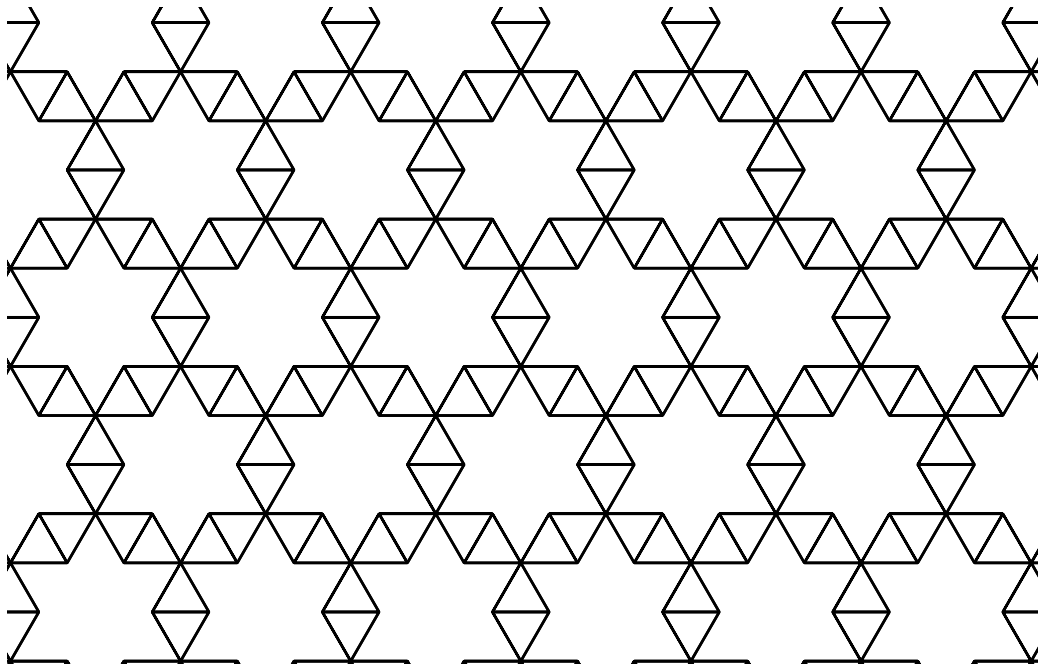

Figure 10: Tiling $(3 \cdot 3 \cdot 6^{**}_{\pi/3}; 3 \cdot 6^*_{\pi/3} \cdot 3 \cdot 6^*_{\pi/3} \cdot 3 \cdot 6^*_{\pi/3})$
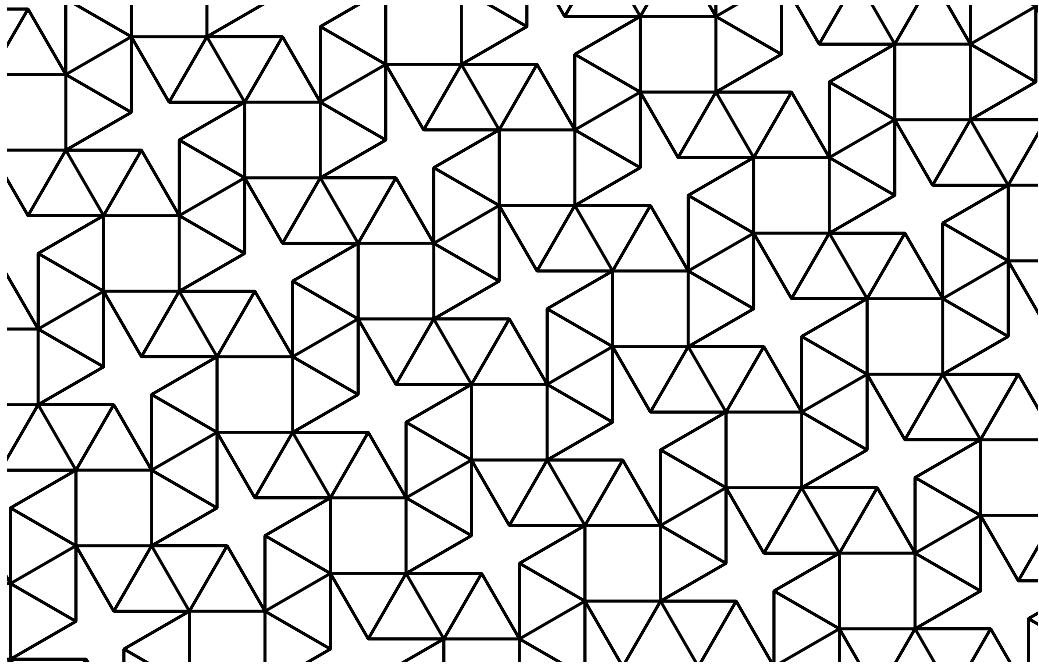
Figure 11: Tiling $(3 \cdot 3 \cdot 4^{**}_{\pi/6}; 3 \cdot 3 \cdot 3 \cdot 4 \cdot 3 \cdot 4^{*}_{\pi/6})$
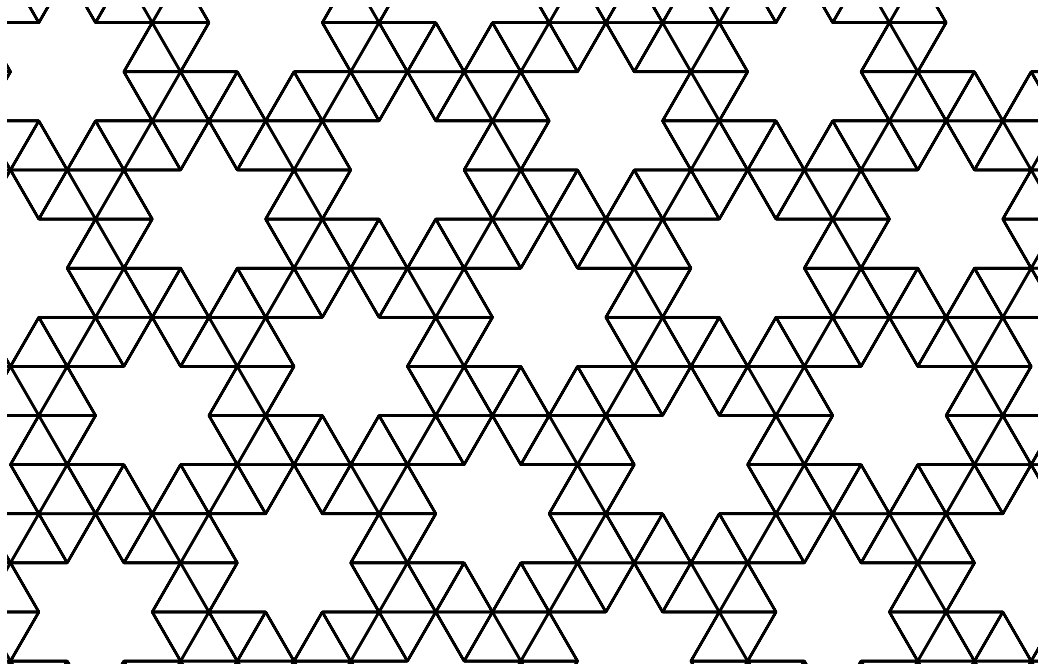
Figure 12: Tiling $(3 \cdot 3 \cdot 6^{**}_{\pi/3}; 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 6^{*}_{\pi/3})$
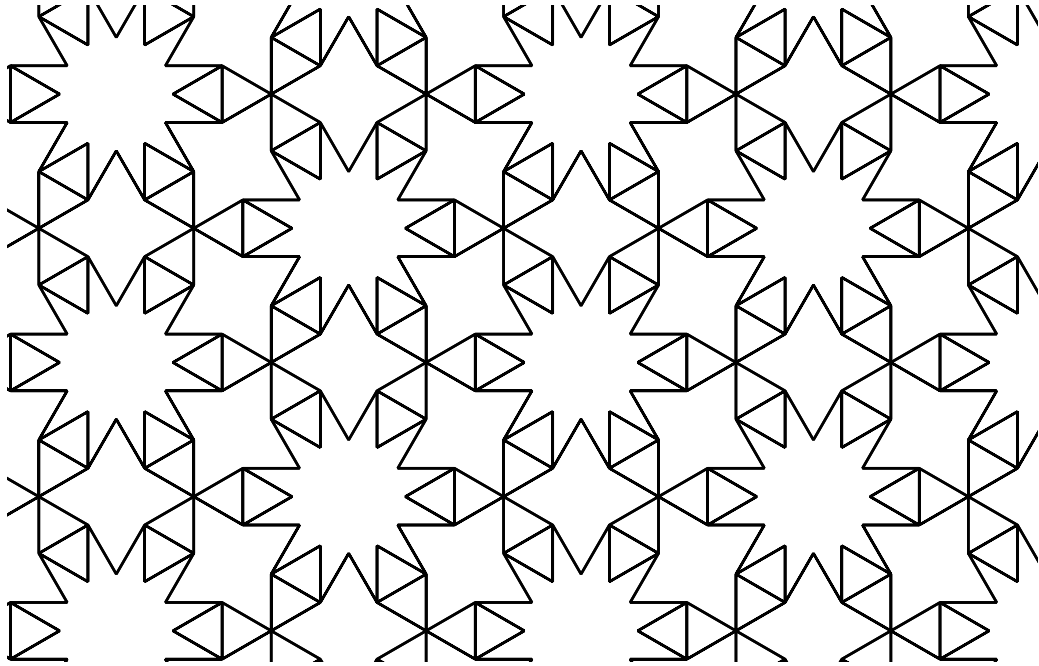
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Figure 13: Tiling $(3 \cdot 3 \cdot 12^*_{\pi/6} \cdot 4^{**}_{\pi/3}; \; 3 \cdot 4^*_{\pi/3} \cdot 3 \cdot 4^*_{\pi/3} \cdot 3 \cdot 4^*_{\pi/3})$
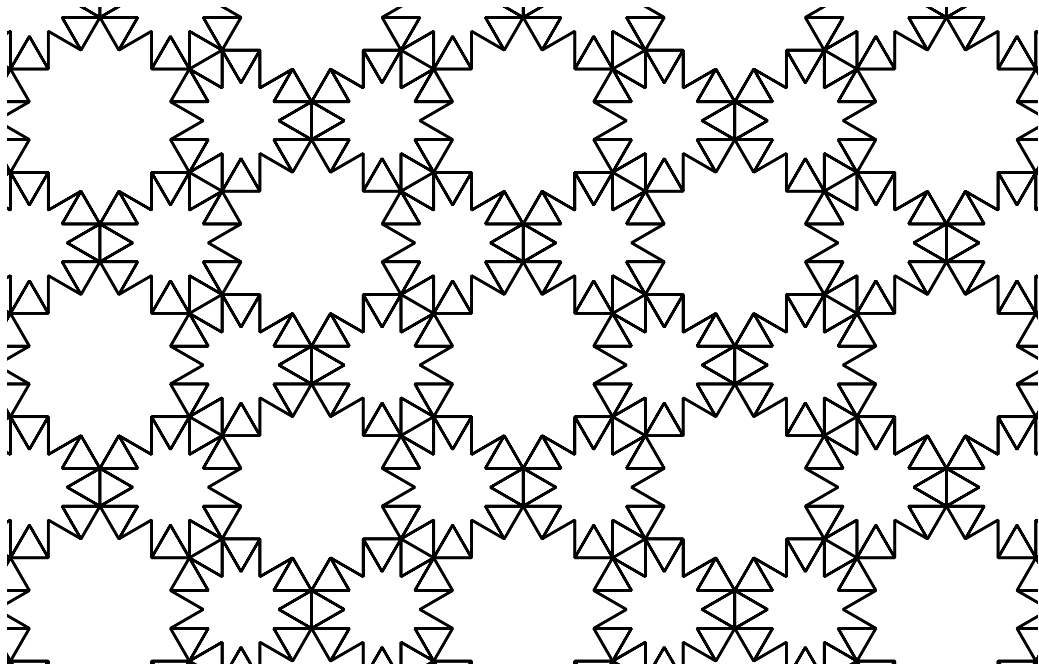

Figure 14: Tiling $(3 \cdot 12^*_{\pi/6} \cdot 12^{**}_{\pi/3}; \; 3 \cdot 3 \cdot 12^*_{\pi/6} \cdot 3 \cdot 12^*_{\pi/3} \cdot 3 \cdot 12^*_{\pi/6})$
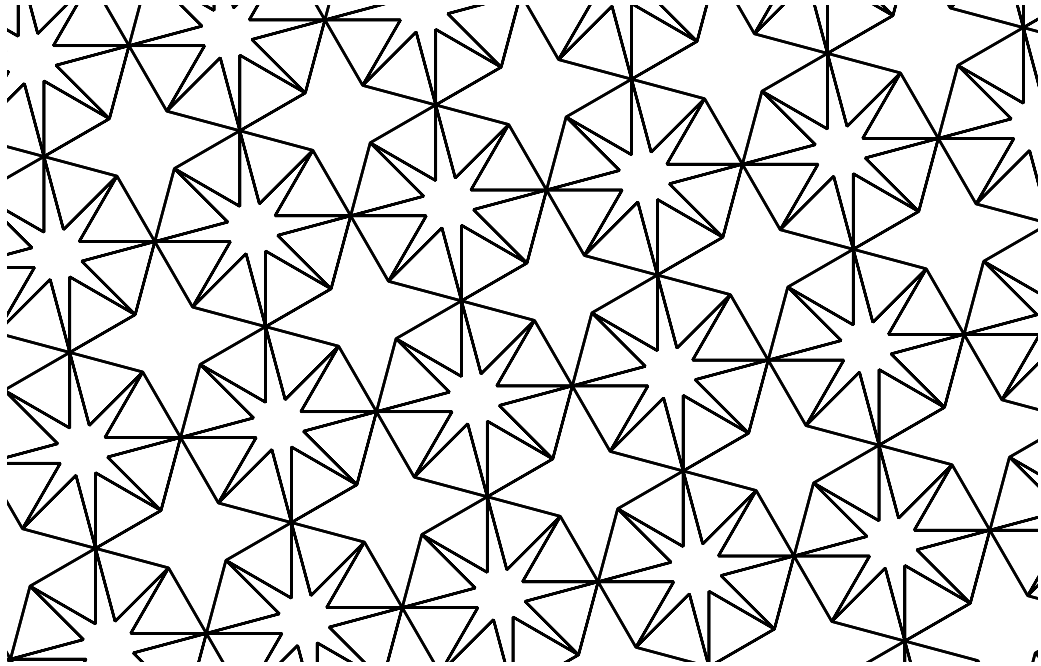
Figure 15: Tiling $(3 . 8^*_{\pi/12} . 3 . 4^{**}_{\pi/4}; 3 . 4^*_{\pi/4} . 3 . 8^*_{\pi/12} . 3 . 4^*_{\pi/4} . 3 . 8^*_{\pi/12})$
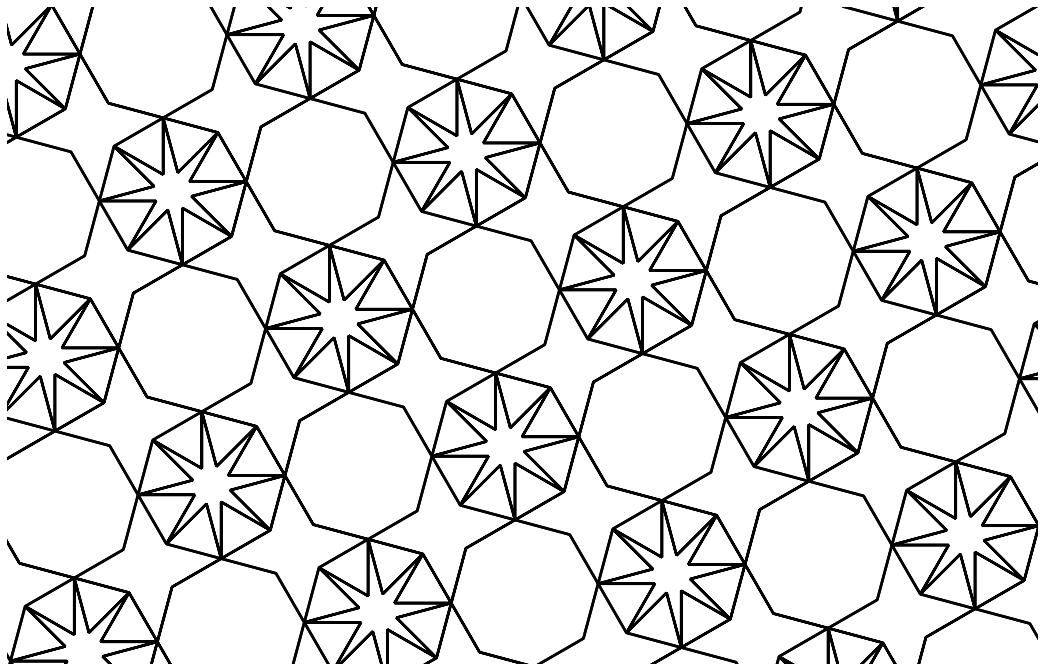
Figure 16: Tiling $(3 . 8^*_{\pi/12} . 3 . 4^{**}_{\pi/4}; 3 . 4^*_{\pi/4} . 8 . 4^*_{\pi/4} . 3 . 8^*_{\pi/12})$

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Figure 17: Tiling $(3 \cdot 12^*_{\pi/6} \cdot 3 \cdot 3^{**}_{\pi/6}; 3 \cdot 3^*_{\pi/6} \cdot 3 \cdot 12^*_{\pi/6} \cdot 3 \cdot 3^*_{\pi/6} \cdot 3 \cdot 12^*_{\pi/6})$
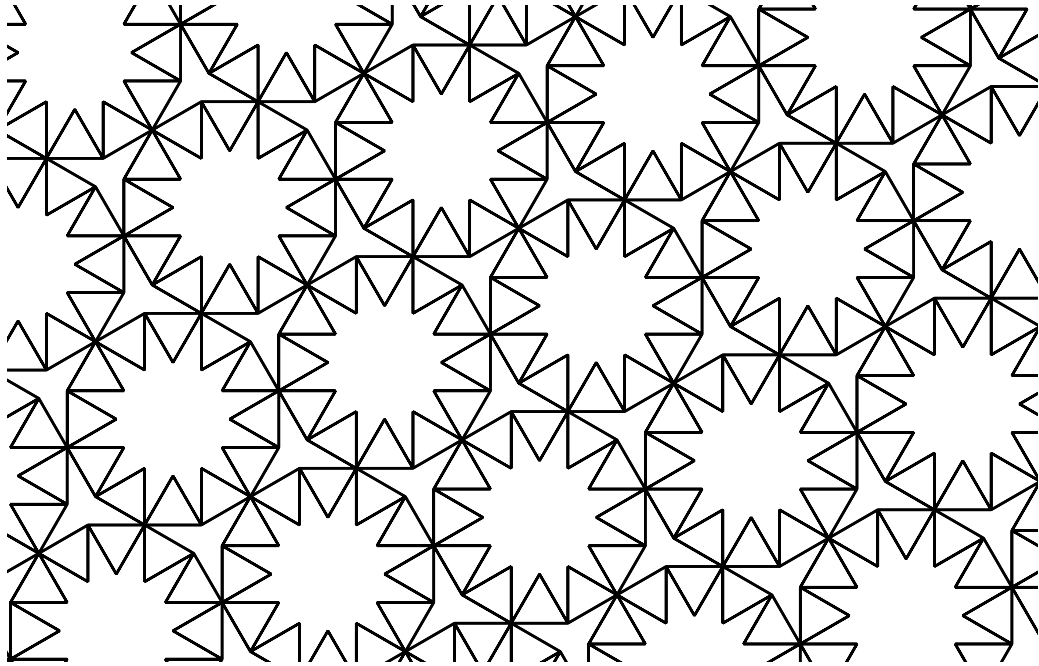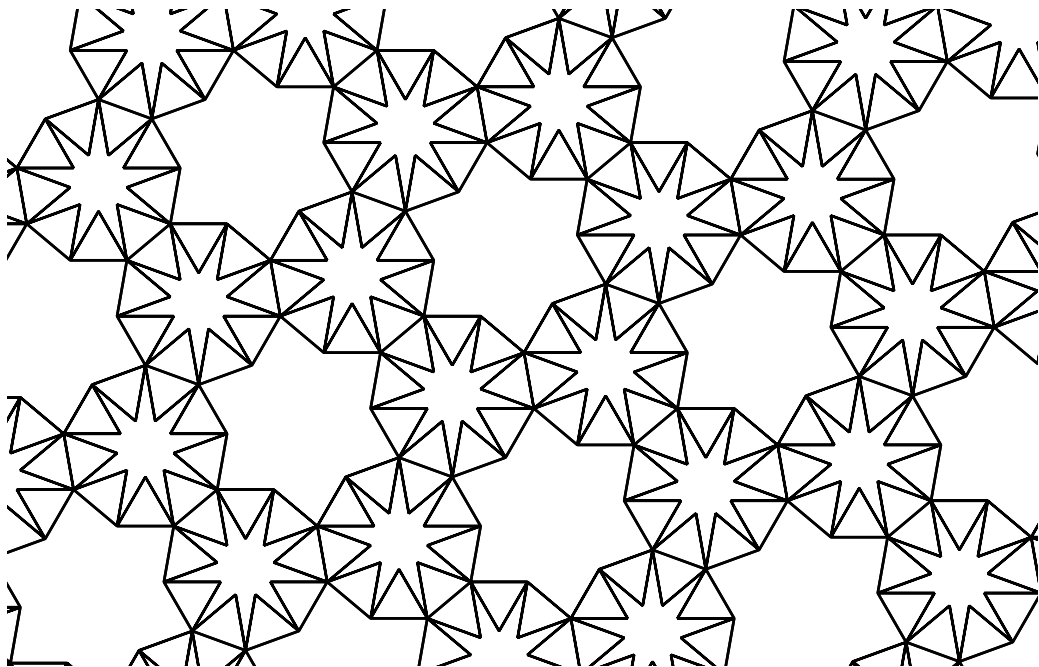

Figure 18: Tiling $(3 \cdot 9^*_{\pi/9} \cdot 3 \cdot 6^{**}_{4\pi/9}; 3 \cdot 3 \cdot 9^*_{\pi/9} \cdot 3 \cdot 6^*_{4\pi/9} \cdot 3 \cdot 9^*_{\pi/9})$
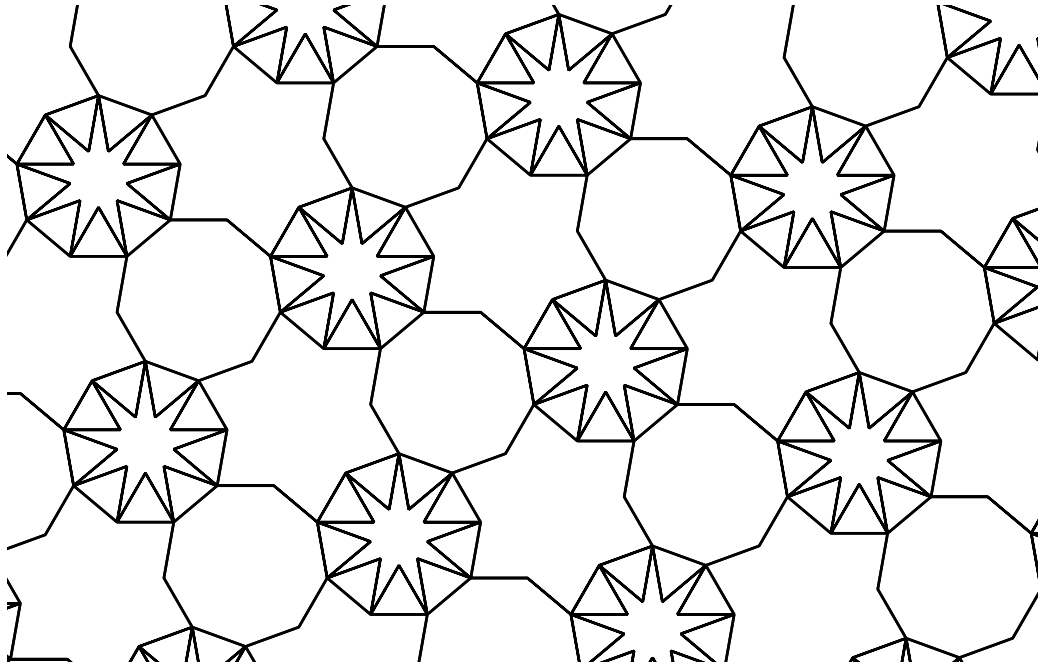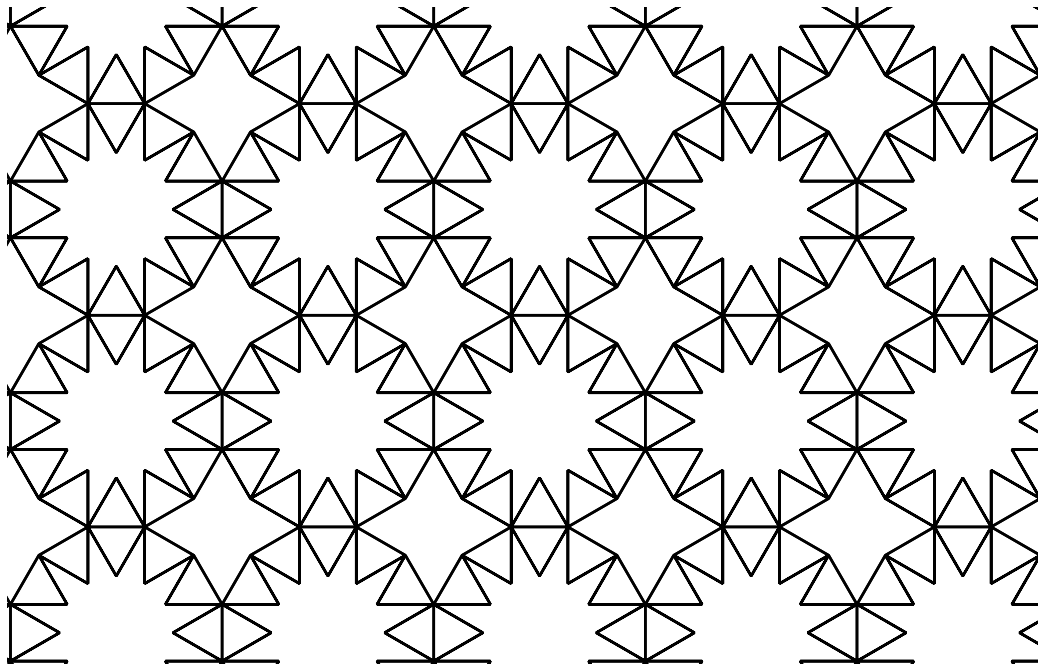
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Figure 19: Tiling $(3 . 9^*_{\pi/9} . 3 . 6^{**}_{4\pi/9}; 3 . 9 . 6^*_{4\pi/9} . 3 . 9^*_{\pi/9})$

Figure 20: Tiling $(3 . 12^*_{\pi/6} . 3 . 4^{**}_{\pi/3}; 3 . 3 . 12^*_{\pi/6} . 3 . 4^*_{\pi/3} . 3 . 12^*_{\pi/6})$
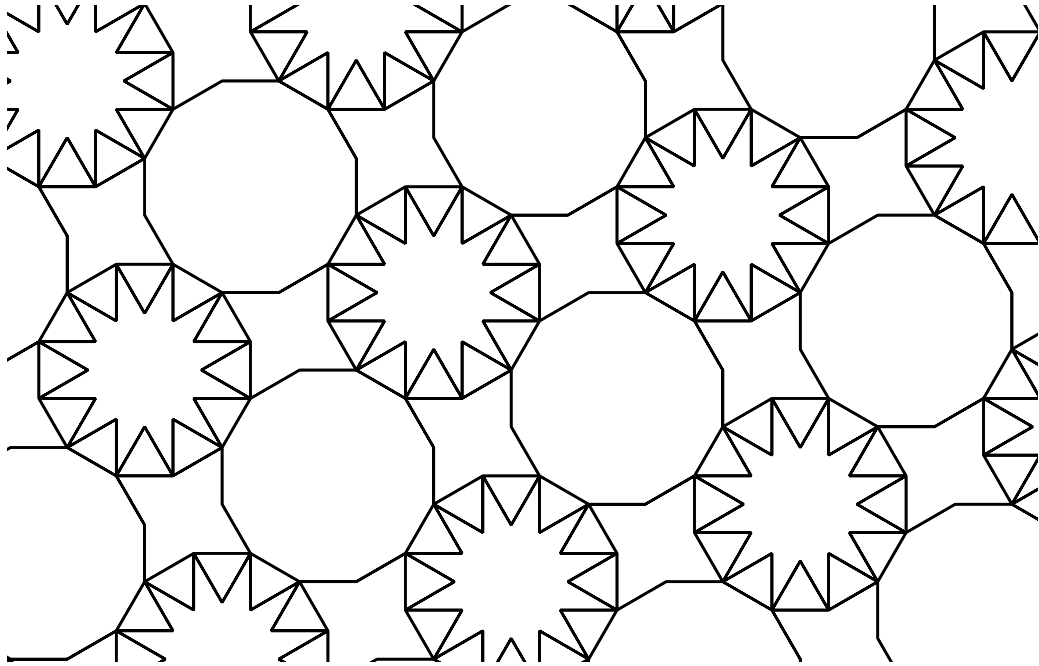
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Figure 21: Tiling $(3 \cdot 12^*_{\pi/6} \cdot 3 \cdot 4^{**}_{\pi/3}; \, 3 \cdot 12 \cdot 4^*_{\pi/3} \cdot 3 \cdot 12^*_{\pi/6})$
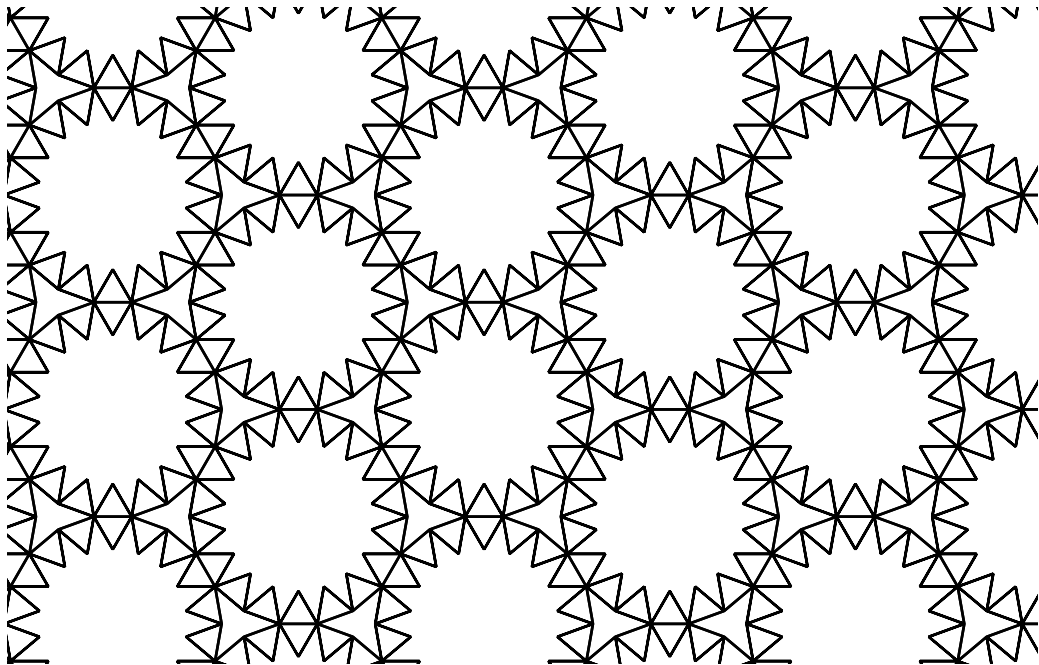

Figure 22: Tiling $(3 \cdot 18^*_{2\pi/9} \cdot 3 \cdot 3^{**}_{2\pi/9}; \, 3 \cdot 3 \cdot 18^*_{2\pi/9} \cdot 3 \cdot 3^*_{2\pi/9} \cdot 3 \cdot 18^*_{2\pi/9})$
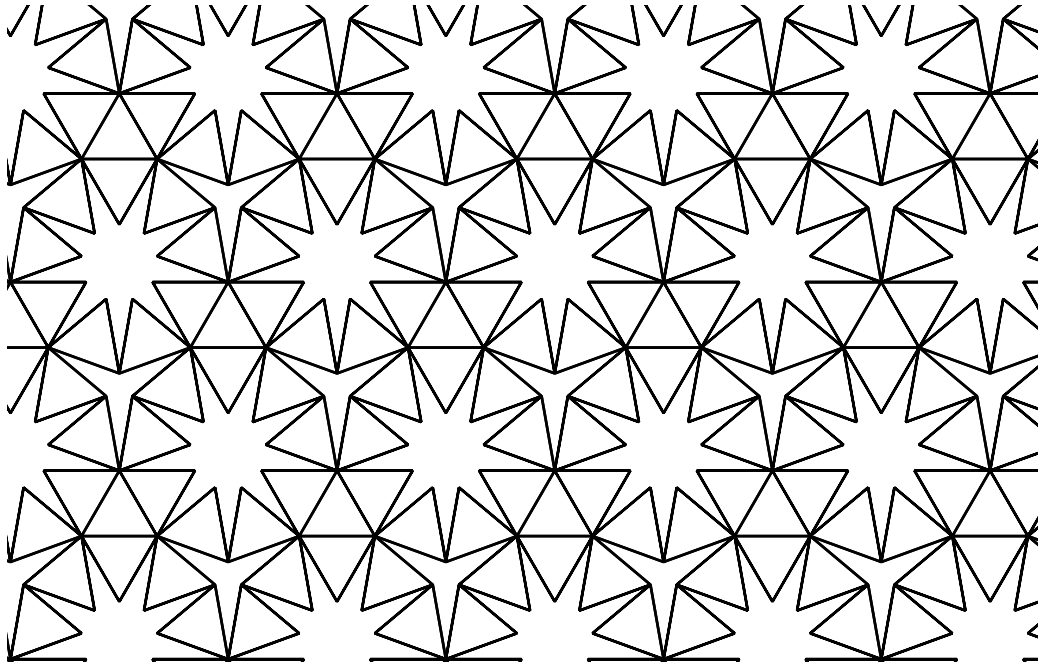
Figure 23: Tiling $(3 \cdot 9^*_{\pi/9} \cdot 3 \cdot 3^{**}_{\pi/9}; 3 \cdot 3 \cdot 3 \cdot 9^*_{\pi/9} \cdot 3 \cdot 3^*_{\pi/9} \cdot 3 \cdot 9^*_{\pi/9})$
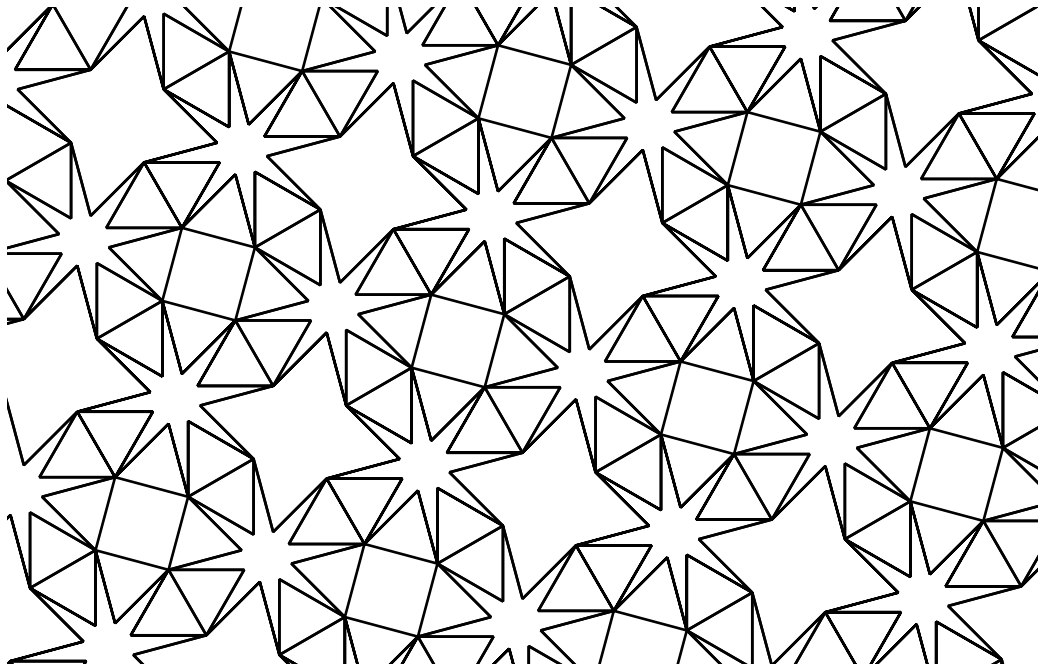

Figure 24: Tiling $(3 \cdot 3 \cdot 8^*_{\pi/12} \cdot 4^{**}_{\pi/3} \cdot 8^*_{\pi/12}; 3 \cdot 3 \cdot 8^*_{\pi/12} \cdot 3 \cdot 4 \cdot 3 \cdot 8^*_{\pi/12})$
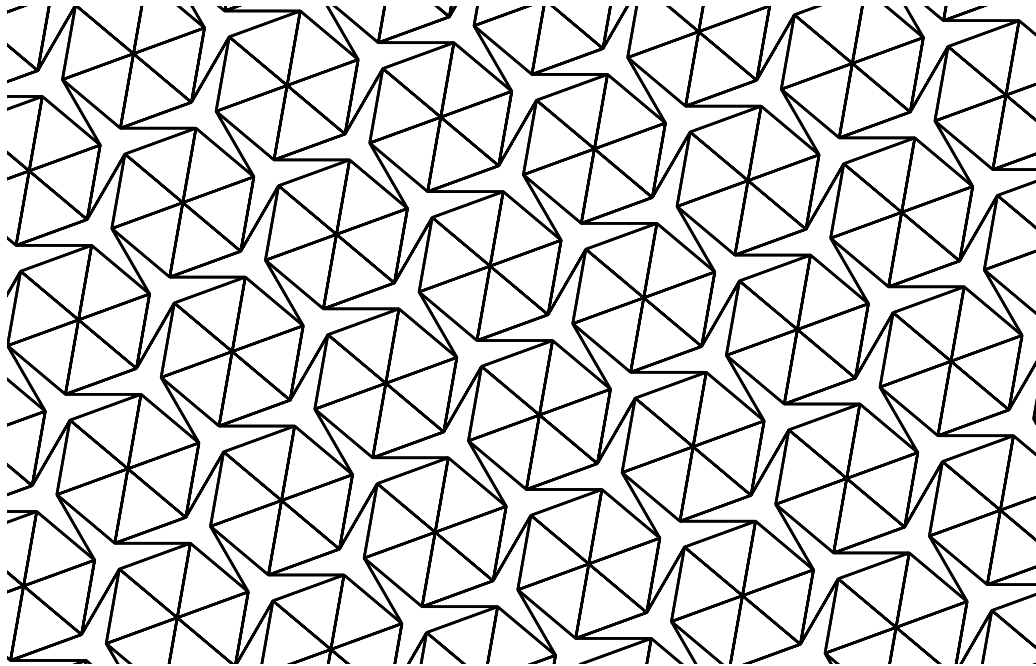
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Figure 25: Tiling family $(3 \,.\, 3 \,.\, 3^*_\alpha \,.\, 3^{**}_\alpha; \, 3 \,.\, 3 \,.\, 3 \,.\, 3 \,.\, 3 \,.\, 3)$
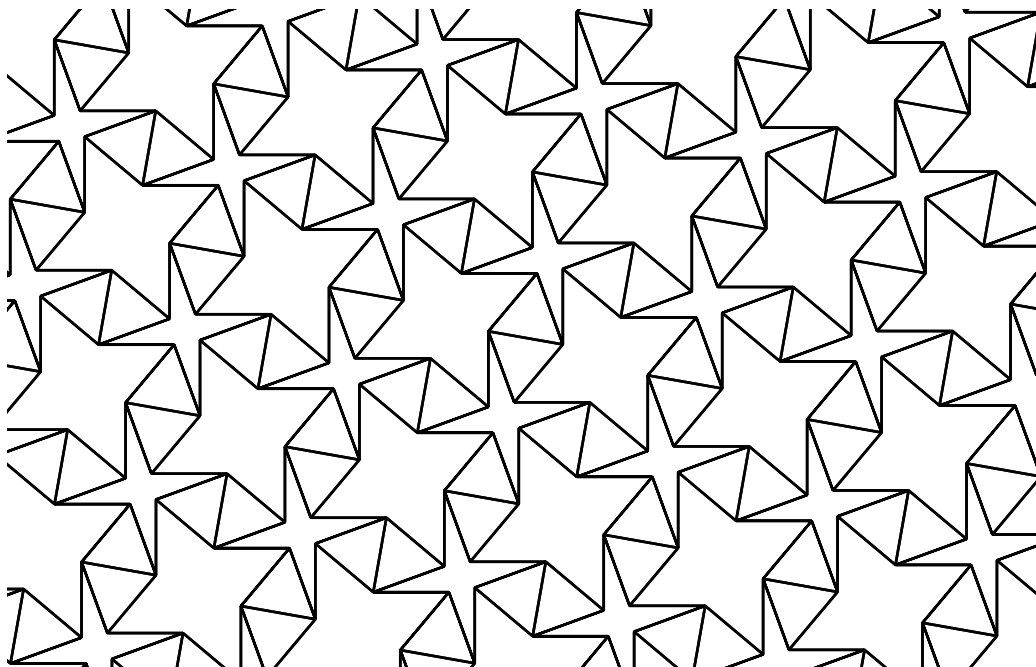
Figure 26: Tiling family $(3 \,.\, 3 \,.\, 4^*_\alpha \,.\, 4^{**}_{\alpha+\pi/6}; \, 3 \,.\, 4^*_{\alpha+\pi/6} \,.\, 4^{**}_\alpha)$
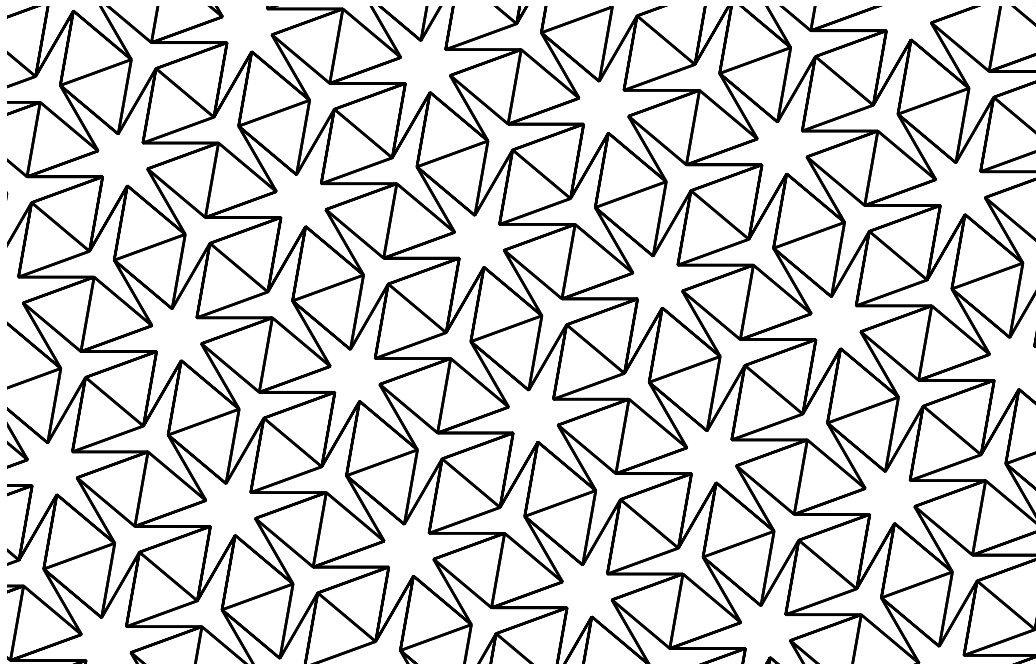
Figure 27: Tiling family $(3 \cdot 3 \cdot 6^*_\alpha \cdot 3^{**}_\alpha; 3 \cdot 3^*_\alpha \cdot 6^{**}_\alpha)$

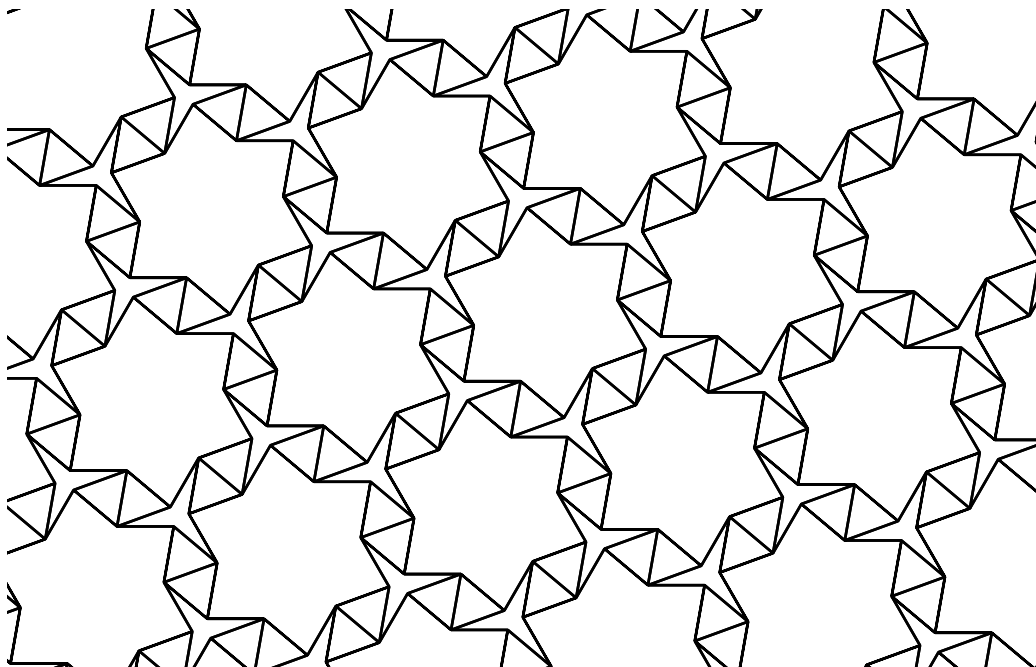Figure 28: Tiling family $(3 \cdot 3 \cdot 3^*_\alpha \cdot 6^{**}_{\alpha+\pi/3}; 3 \cdot 6^*_{\alpha+\pi/3} \cdot 3^{**}_\alpha)$
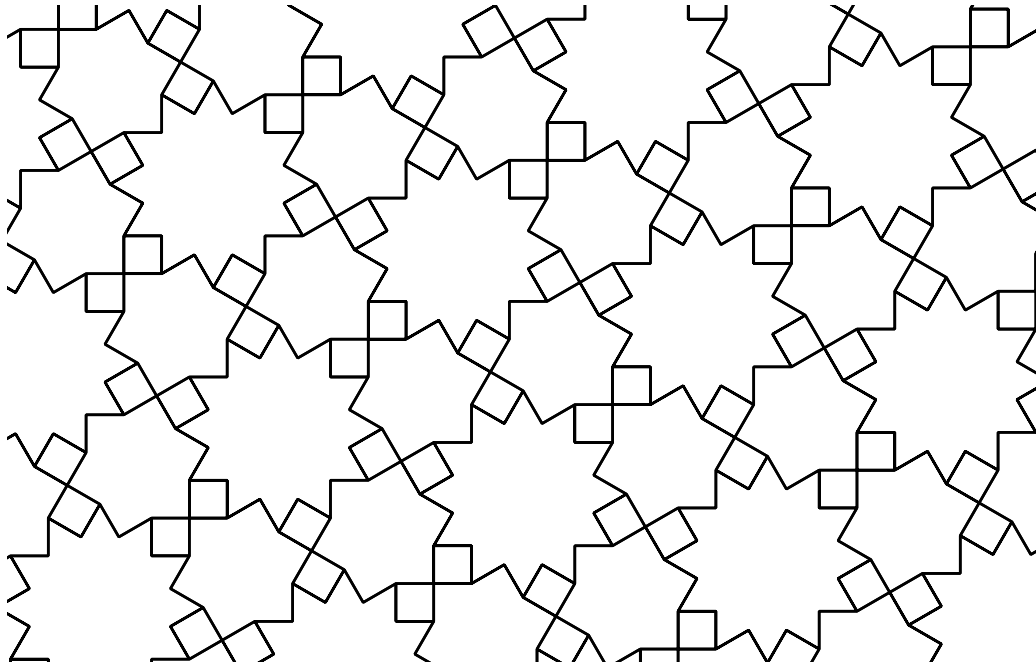
Figure 29: Tiling $(4 \,.\, 12^*_{\pi/3} \,.\, 6^{**}_{\pi/2};\ 4 \,.\, 6^*_{\pi/2} \,.\, 4 \,.\, 6^*_{\pi/2})$
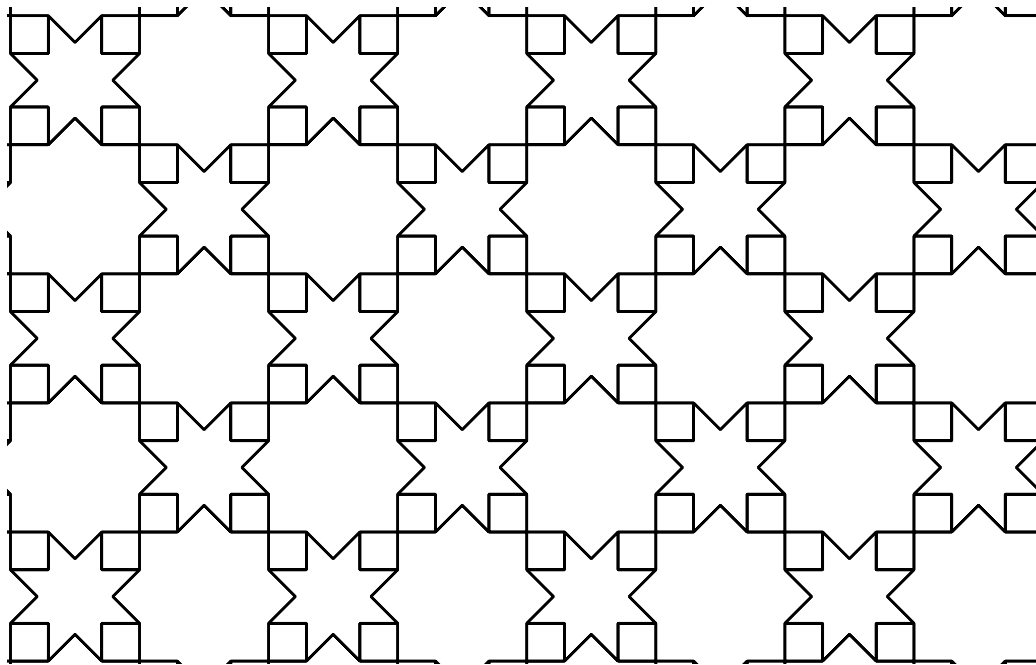
Figure 30: Tiling $(4 \,.\, 8^*_{\pi/4} \,.\, 8^{**}_{\pi/2};\ 4 \,.\, 8^*_{\pi/2} \,.\, 4 \,.\, 8^*_{\pi/2})$
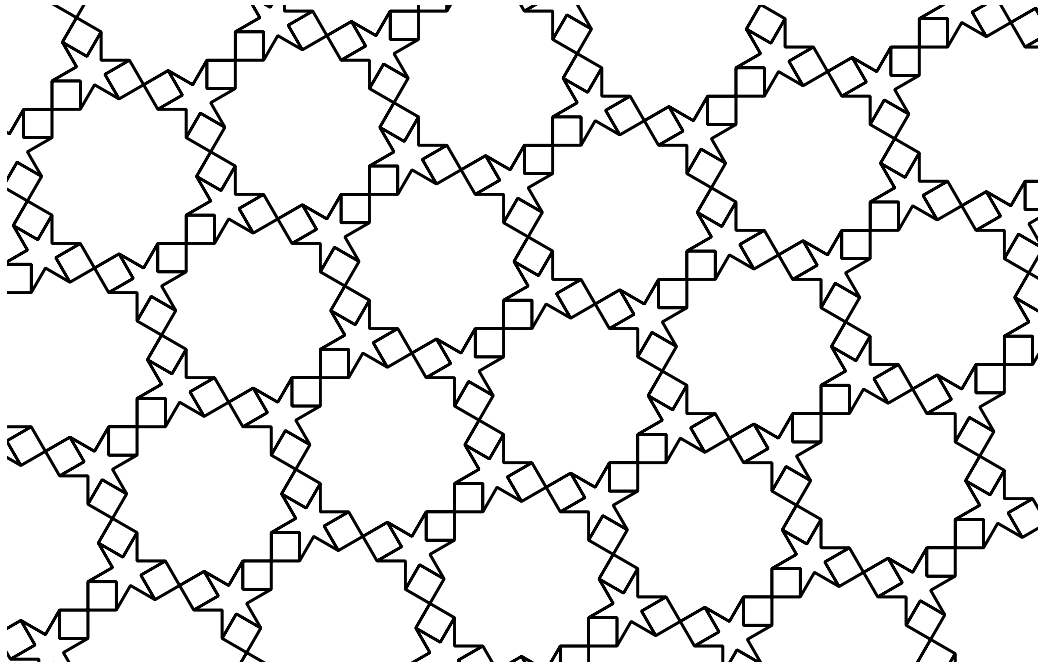
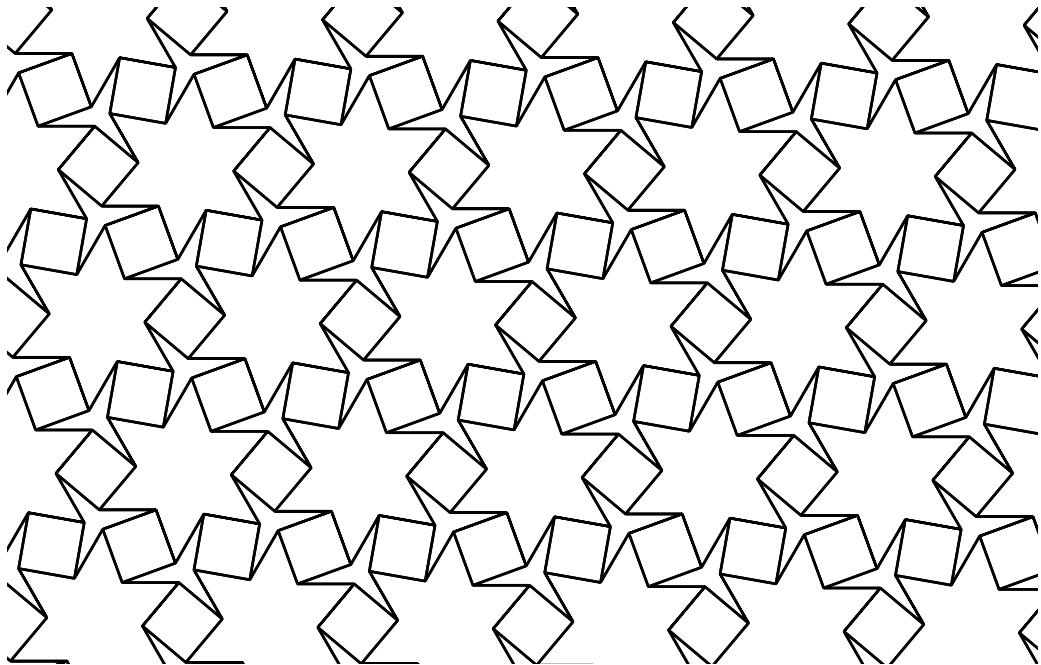Figure 31: Tiling $(4 \cdot 6^*_{\pi/6} \cdot 12^{**}_{\pi/2}; 4 \cdot 12^*_{\pi/2} \cdot 4 \cdot 12^*_{\pi/2})$

Figure 32: Tiling family $(4 \cdot 6^*_{\alpha+\pi/6} \cdot 3^{**}_\alpha; 4 \cdot 3^*_\alpha \cdot 6^{**}_{\alpha+\pi/6})$
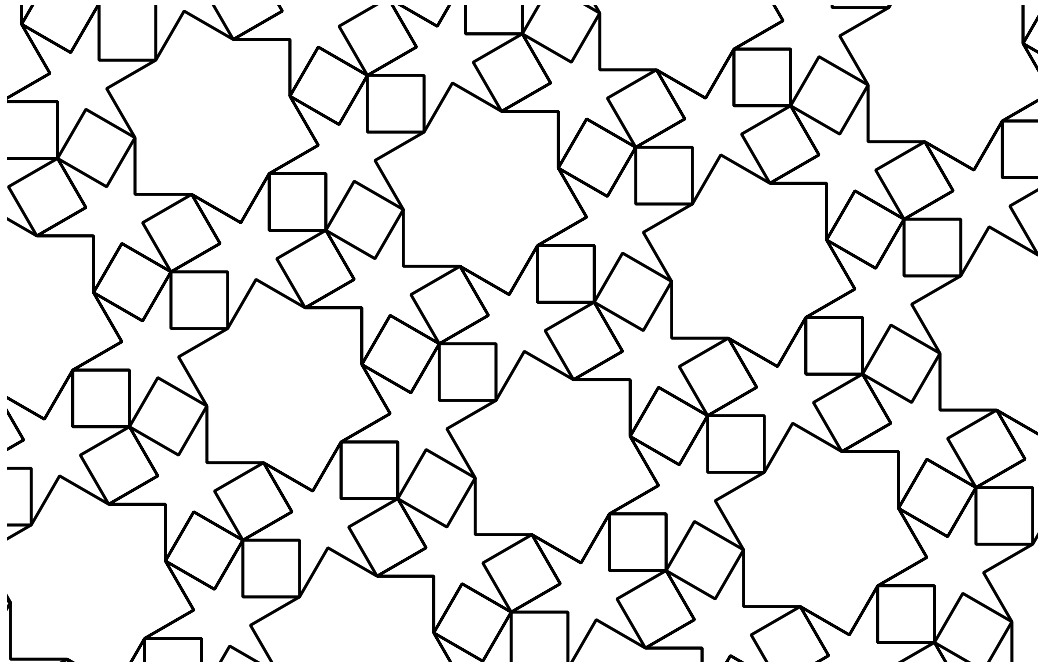
Figure 33: Tiling $(4 \cdot 6^*_{\pi/6} \cdot 6^{**}_{\pi/2} \cdot 6^*_{\pi/6}; 4 \cdot 6^*_{\pi/6} \cdot 4 \cdot 6^*_{\pi/6} \cdot 4 \cdot 6^*_{\pi/6})$
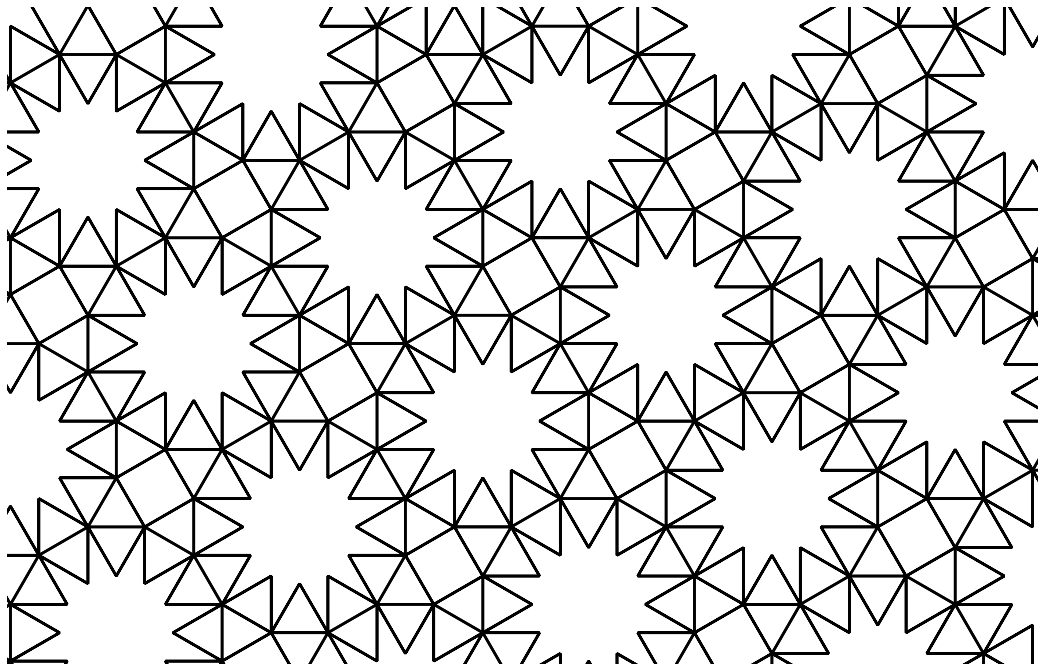

Figure 34: Tiling $(3 \cdot 3 \cdot 3 \cdot 12^*_{\pi/6} \cdot 3 \cdot 3 \cdot 12^*_{\pi/6}; 3 \cdot 3 \cdot 4 \cdot 3 \cdot 3 \cdot 12^*_{\pi/6})$
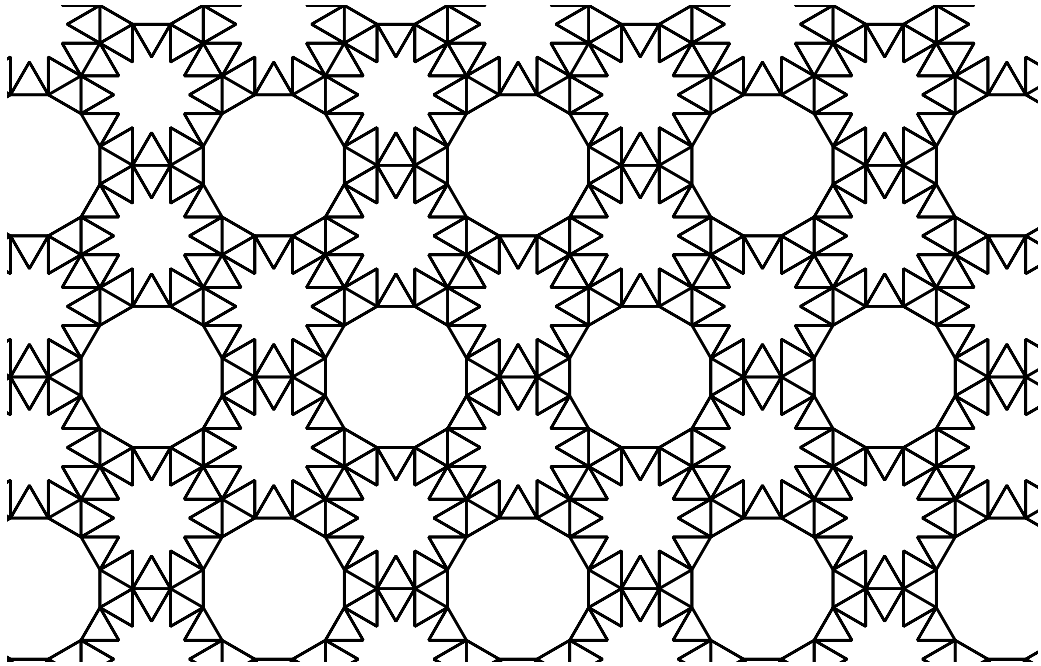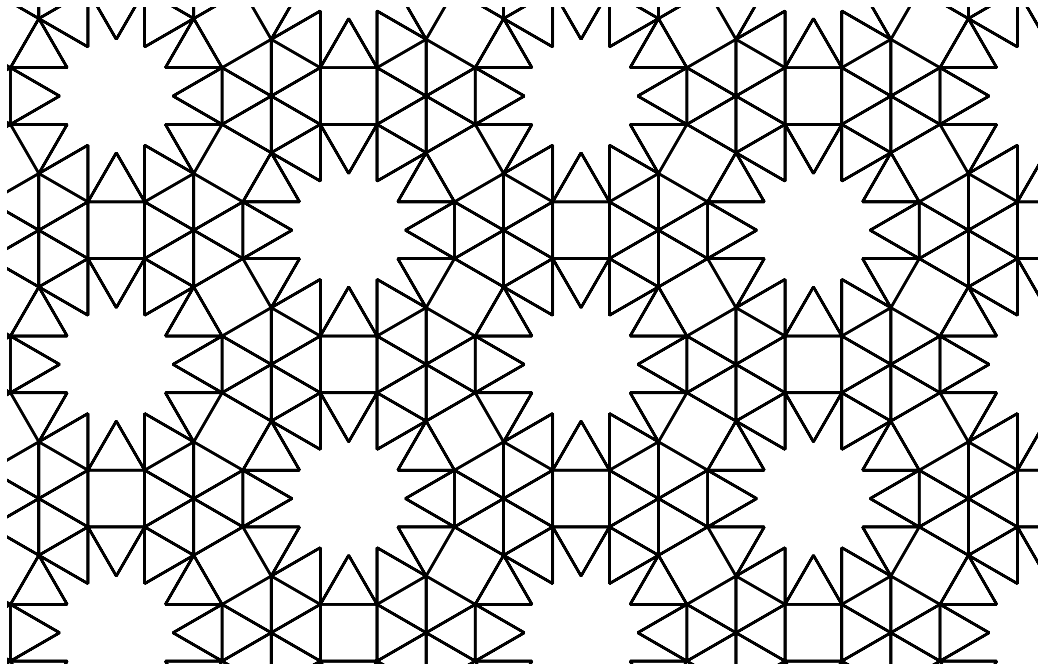
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Figure 35: Tiling $(3 . 3 . 3 . 12^*_{\pi/6} . 3 . 3 . 12^*_{\pi/6}; 3 . 3 . 12 . 3 . 12^*_{\pi/6})$

Figure 36: Tiling $(3 . 3 . 3 . 3 . 3 . 3; 3 . 3 . 3 . 4 . 3 . 12^*_{\pi/6})$

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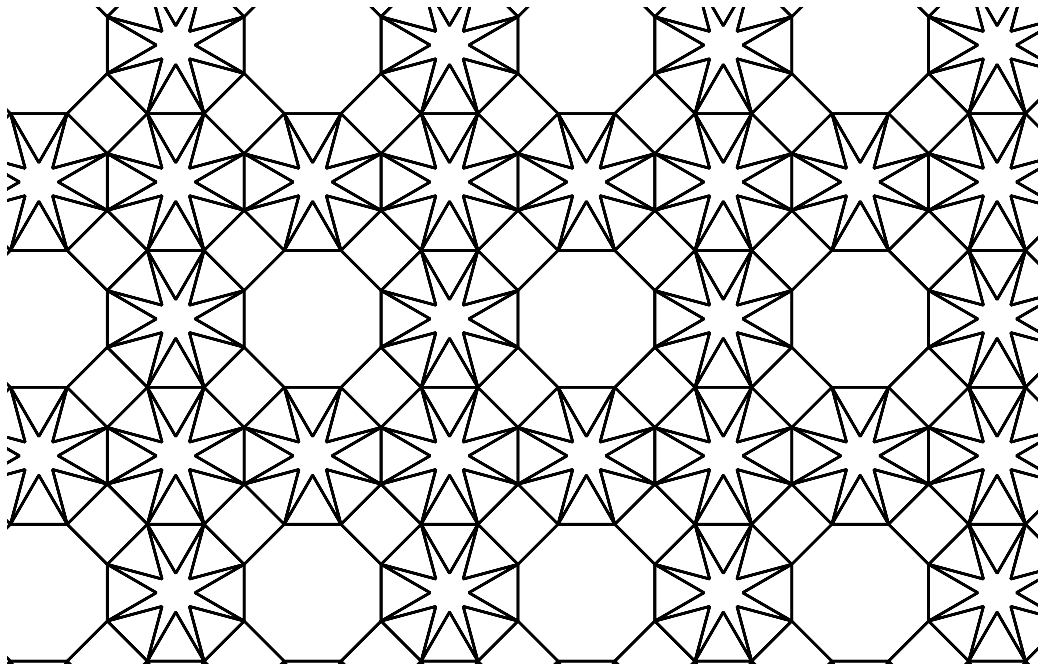
Figure 37: Tiling $(3\,.\,3\,.\,8^*_{\pi/12}\,.\,3\,.\,4\,.\,3\,.\,8^*_{\pi/12};\,3\,.\,4\,.\,8\,.\,3\,.\,8^*_{\pi/12})$
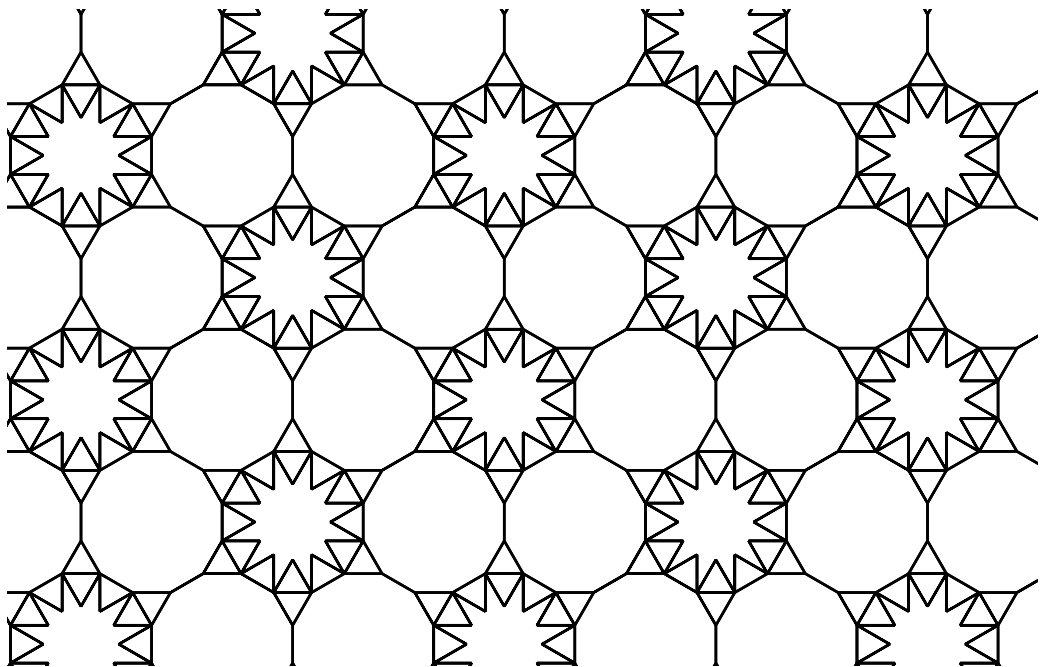
Figure 38: Tiling $(3\,.\,3\,.\,12^*_{\pi/6}\,.\,3\,.\,12;\,3\,.\,12\,.\,12)$

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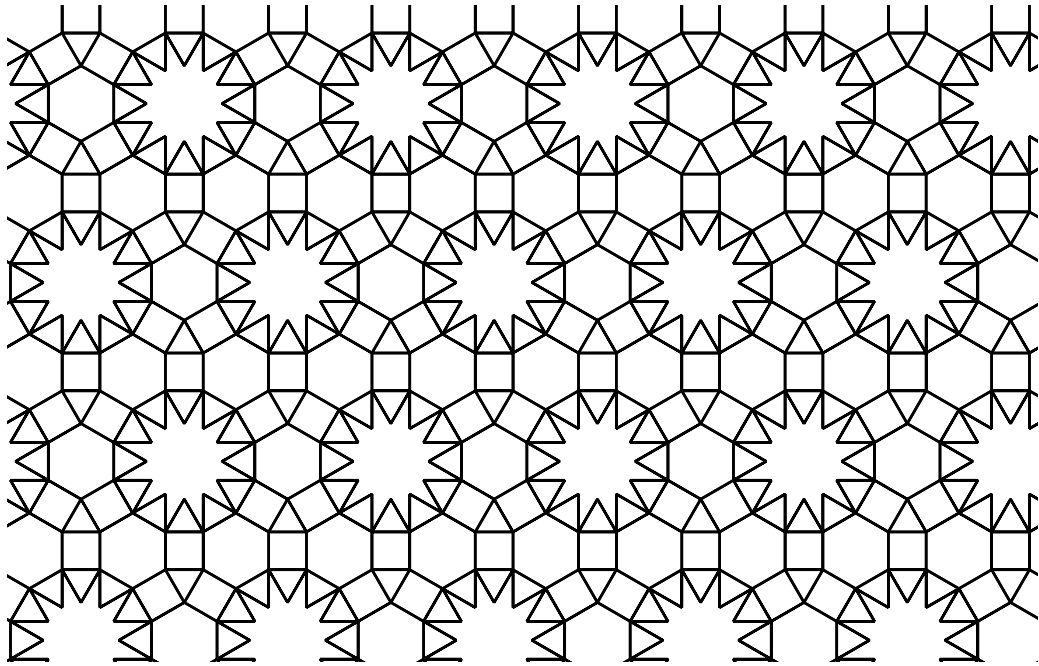
Figure 39: Tiling $(3 . 4 . 6 . 3 . 12^*_{\pi/6}; 3 . 4 . 6 . 4)$
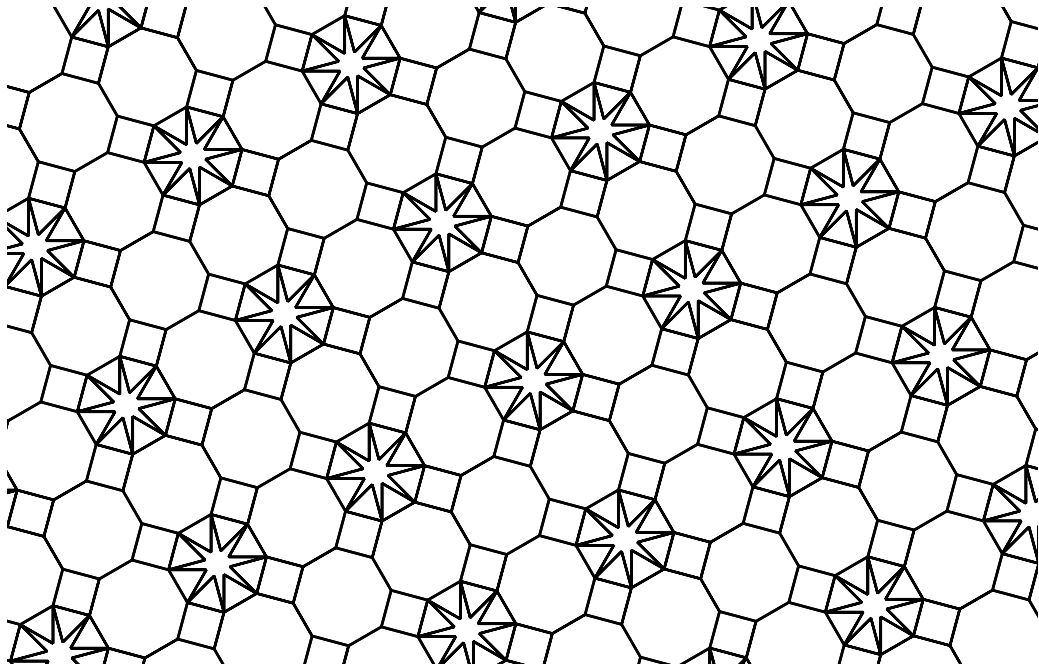
Figure 40: Tiling $(3 . 4 . 8 . 3 . 8^*_{\pi/12}; 4 . 8 . 8)$

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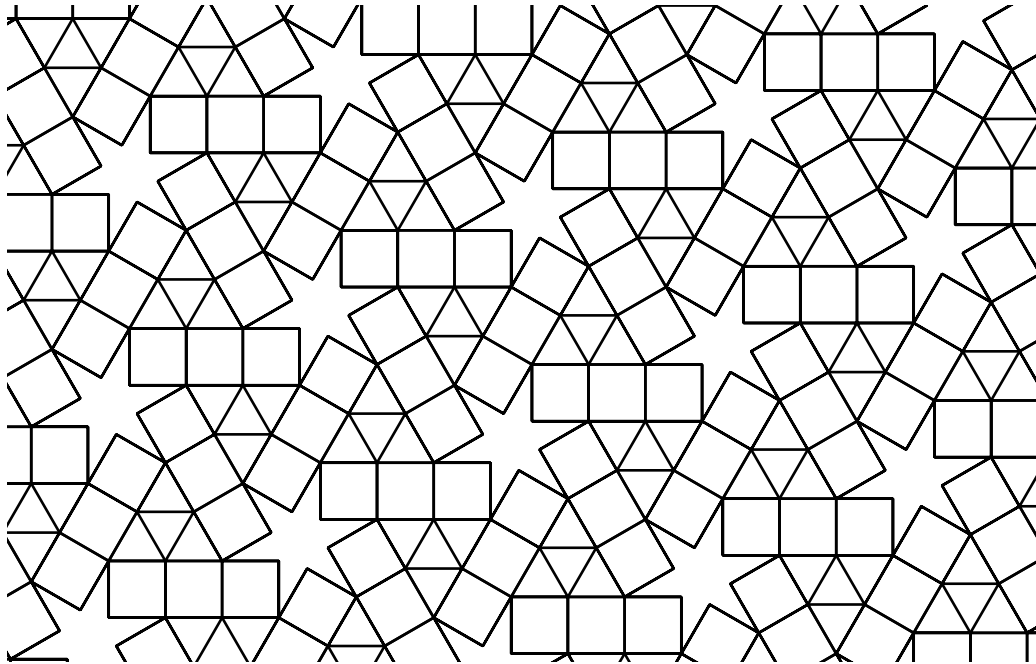
Figure 41: Tiling $(3 \,.\, 4 \,.\, 4 \,.\, 6^*_{\pi/6} \,.\, 4; 3 \,.\, 3 \,.\, 3 \,.\, 4 \,.\, 4)$
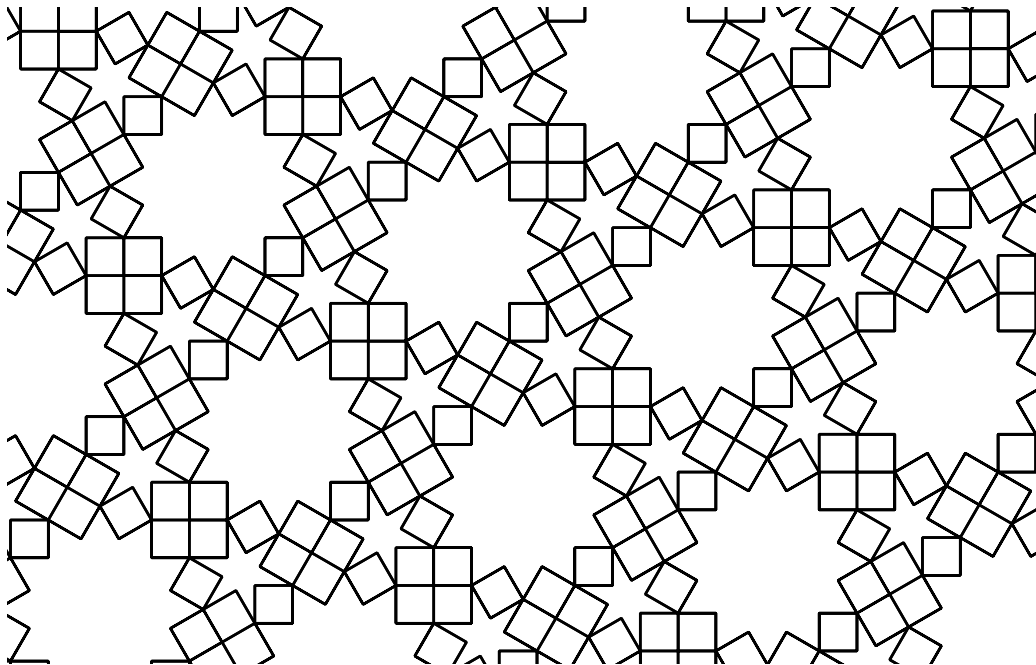
Figure 42: Tiling $(4 \,.\, 4 \,.\, 6^*_{\pi/6} \,.\, 4 \,.\, 12^*_{\pi/3}; 4 \,.\, 4 \,.\, 4 \,.\, 4)$
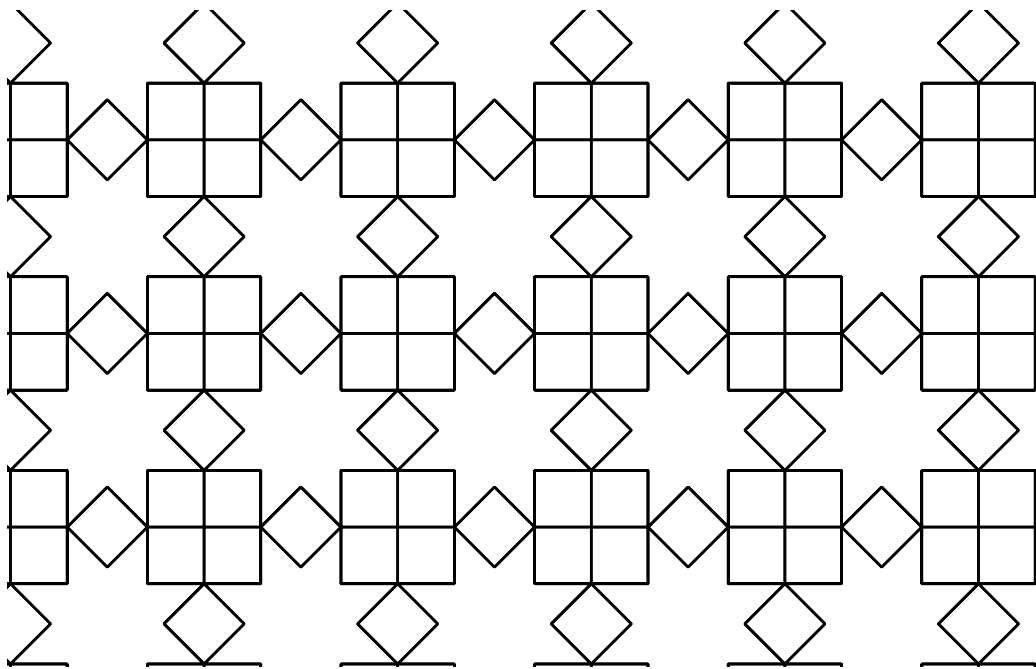
Figure 43: Tiling $(4 \cdot 4 \cdot 8^*_{\pi/4} \cdot 4 \cdot 8^*_{\pi/4}; 4 \cdot 4 \cdot 4 \cdot 4)$