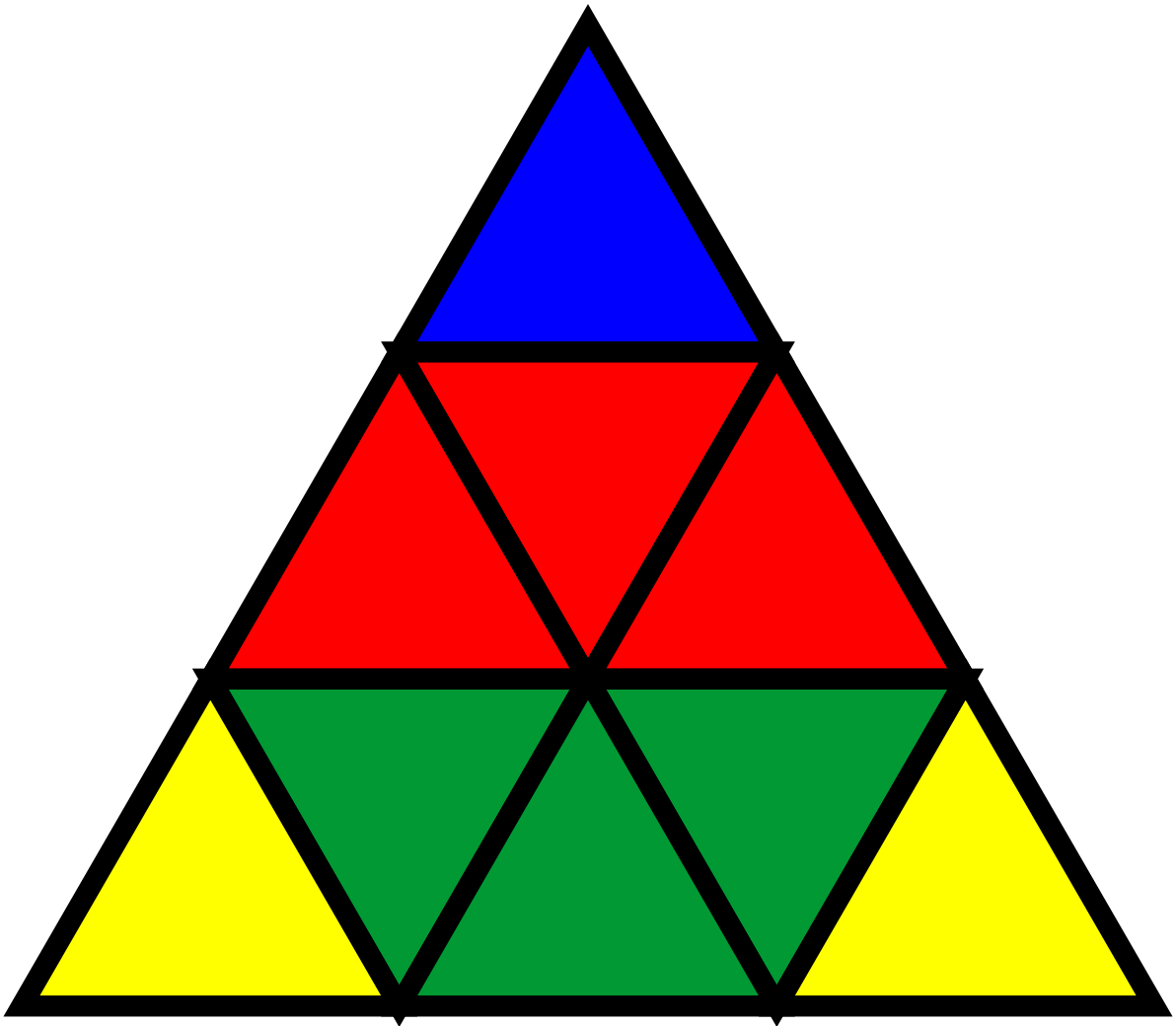


Pyraminx



Der Pyraminx

Der Pyraminx ist ein mechanisches Geduldsspiel in Form eines gleichmäßigen Tetraeders, das vom Prinzip und Aufbau her mit dem Zauberwürfel von Ernő Rubik vergleichbar ist.

Der Pyraminx besteht aus 14 beweglichen Teilen, von denen aber nur zehn relevant sind. Da das Drehen einzelner Ecken die anderen Teile nicht verändert, sind die Ecken trivial und für die Lösung irrelevant.

4 Ecksteine
4 Mittelsteine
6 Kantensteine

Kombinationen

Lässt man die Ecken außer Acht, so führt dies zu einer theoretischen Obergrenze von $3^4 \times 6! \times 2^6$ Stellungen. Mechanismusbedingt sind aber nur ein Viertel davon erreichbar, was zu einer Anzahl von $3^4 \times 6! \times 2^4 = 933.120$ führt.

Jede Stellung benötigt maximal elf Züge zur Grundstellung, eventuelles Drehen der Ecken nicht eingerechnet.

Mit Einbeziehung der vier trivialen Ecken erhöht sich die Zahl der möglichen Stellungen um den Faktor 3^4 auf 75.582.720.

Lösung

1. Mittelsteine richten

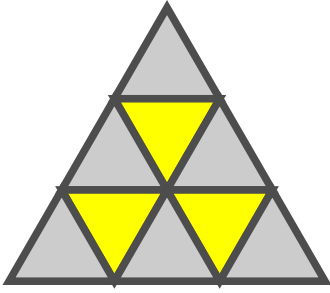
Dabei gibt es nur eine Schwierigkeit. Wenn die drei gleichfarbigen Mittelsteine auf einer Ebene sind, wird auf der nächsten Seite eine Lösung für dieses Problem gezeigt.

2. Kantensteine richten

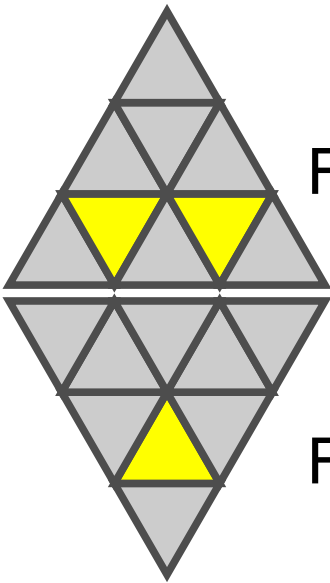
Dies ist die schwierigste Aufgabe. Daher gibt es hier mehrere Lösungswege für die verschiedenen Probleme.

3. Ecksteine richten

Ecksteine zu lösen ist eher Trivial und es gibt daher keine Anleitung für dieses Problem.

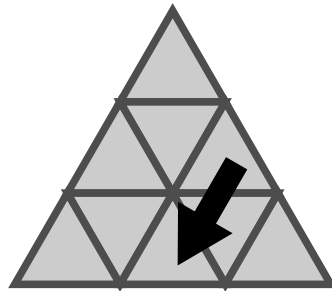
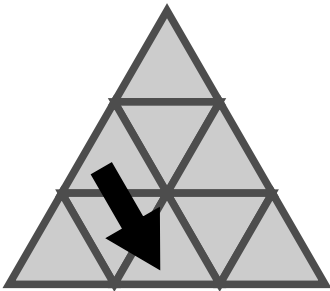


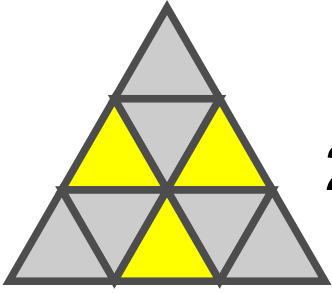
1. Mittelsteine richten



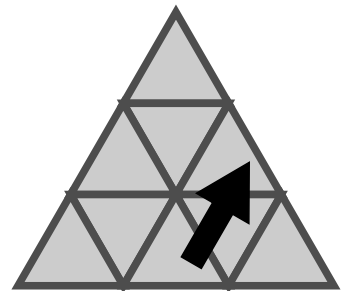
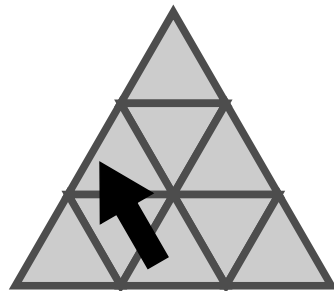
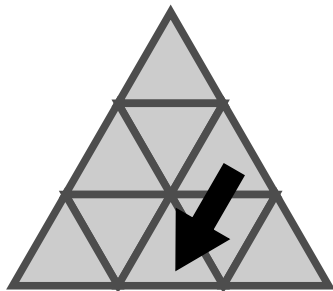
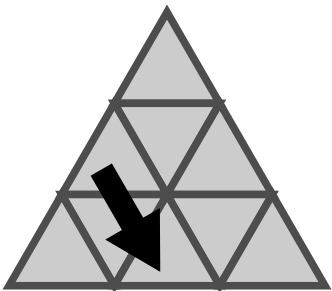
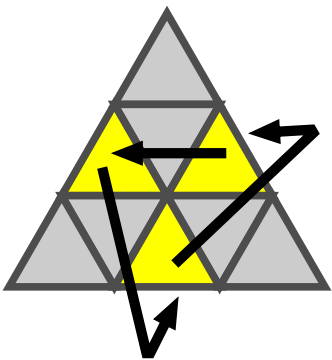
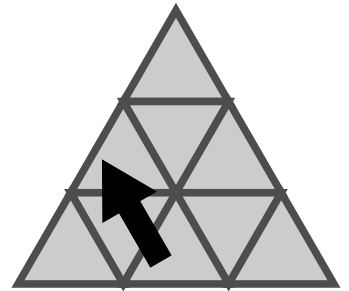
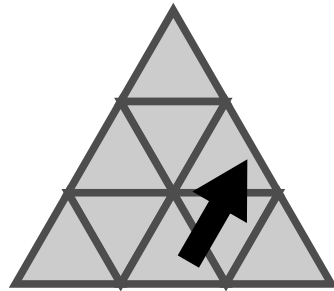
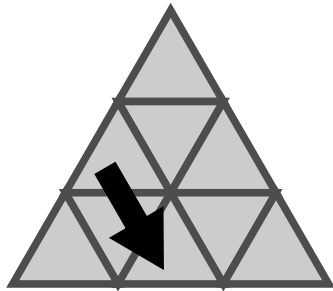
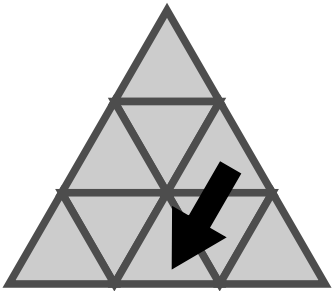
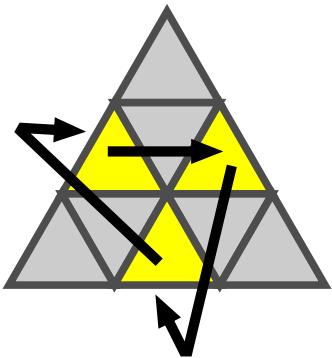
Fläche vorne

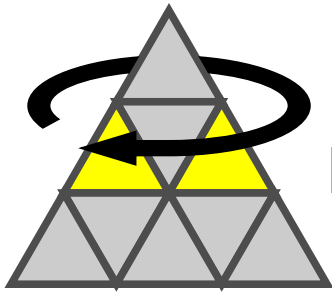
Fläche unten



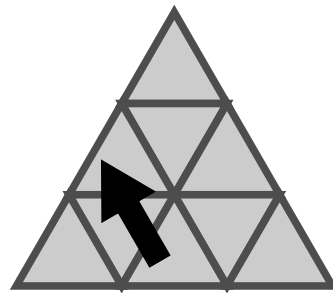
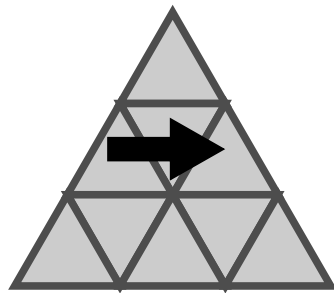
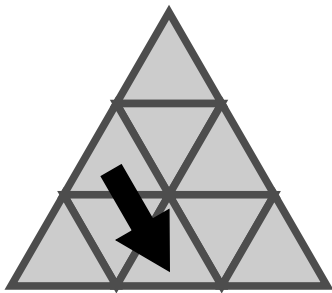
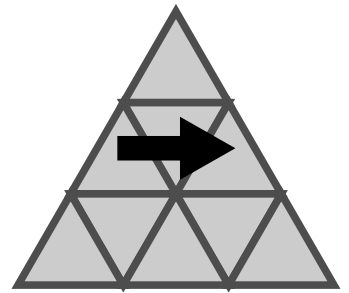
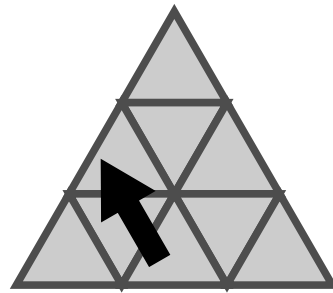
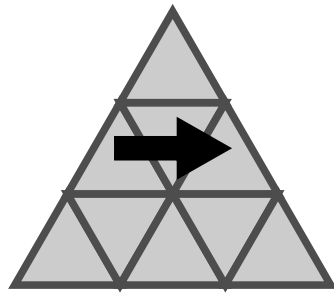
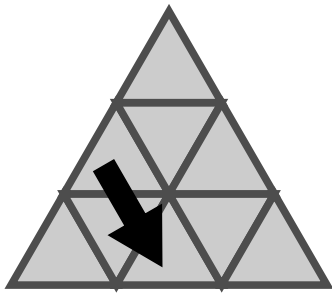


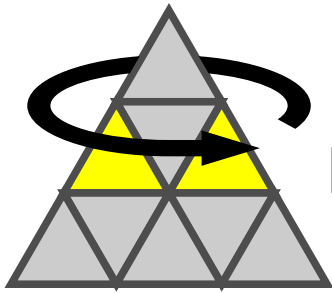
2. Kantensteine richtig positionieren



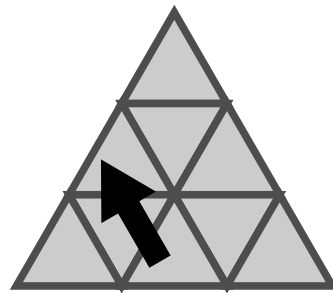
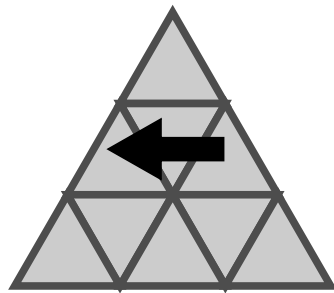
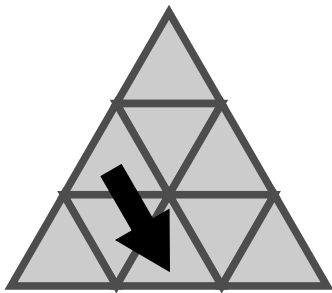
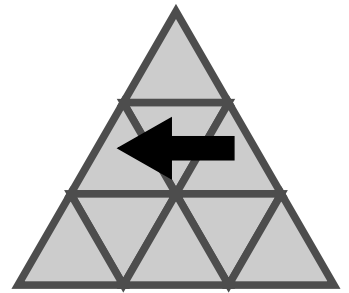
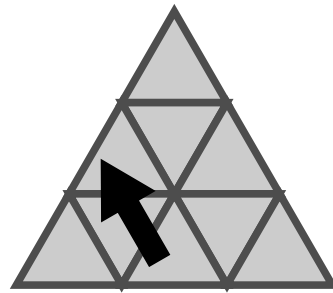
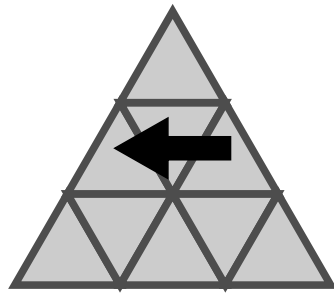
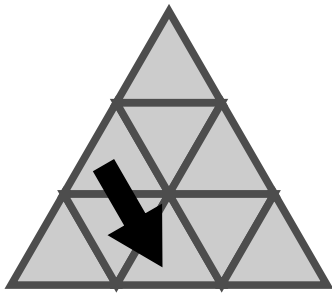


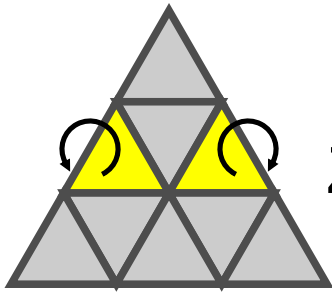
Kantensteine im Uhrzeigersinn
vertauschen



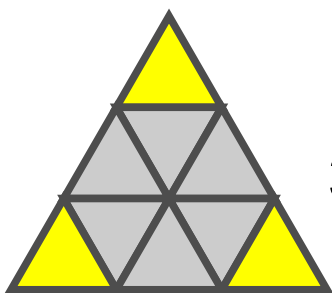
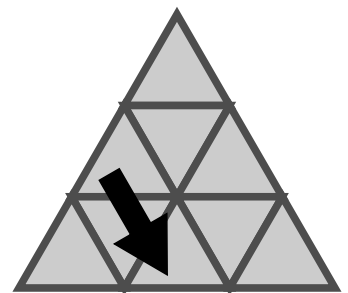
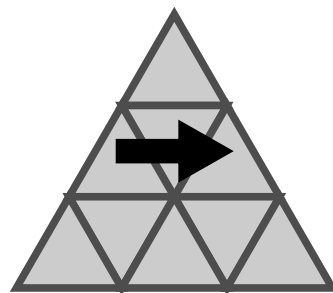
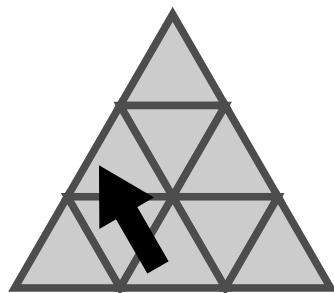
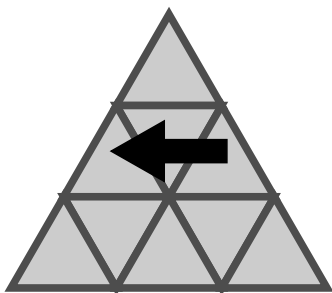
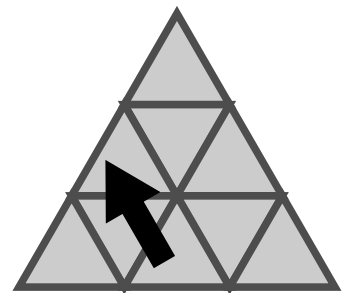
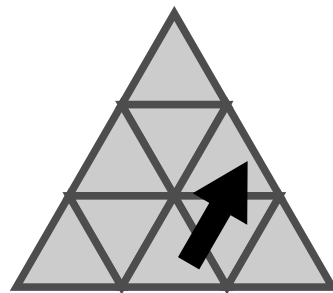
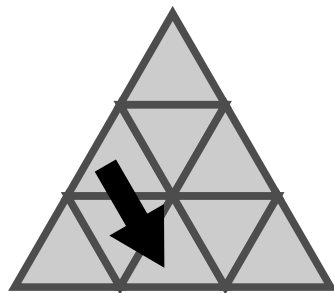
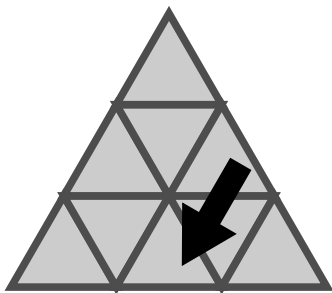


Kantensteine gegen den Uhrzeigersinn vertauschen

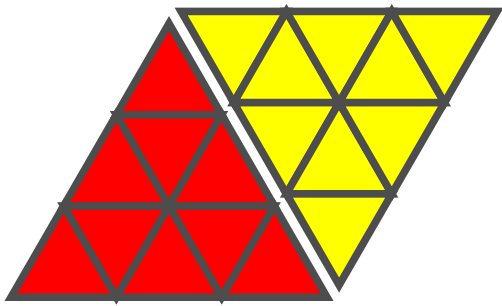




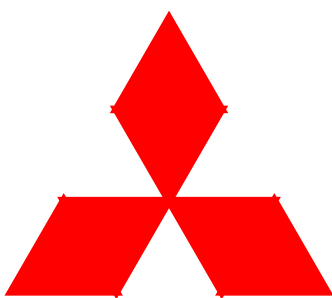
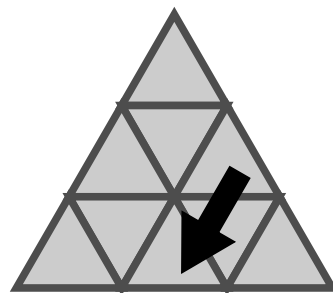
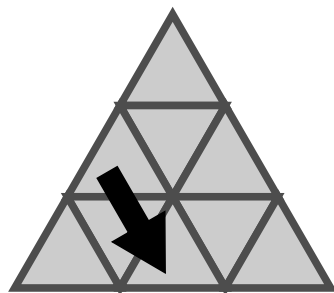
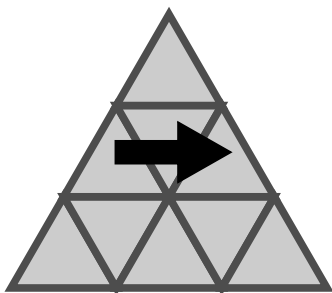
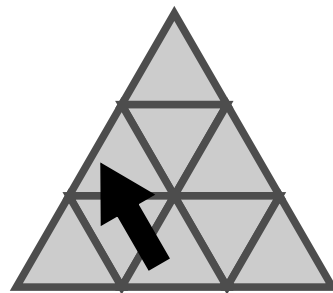
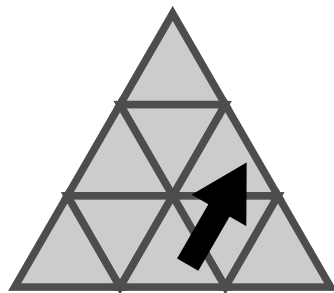
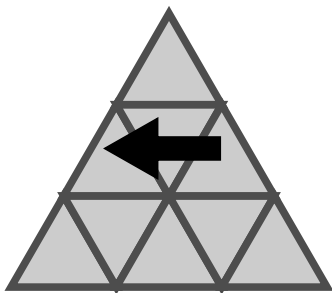
Zwei Kantensteine verdrehen



3. Ecksteine richten



vorne Rot
rechts daneben Gelb



Mitsubishi

