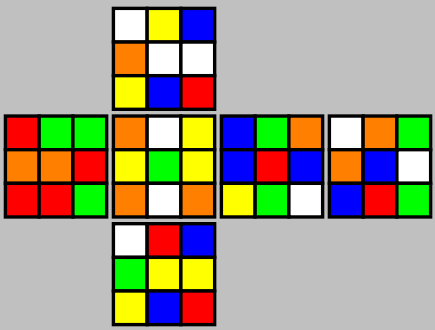
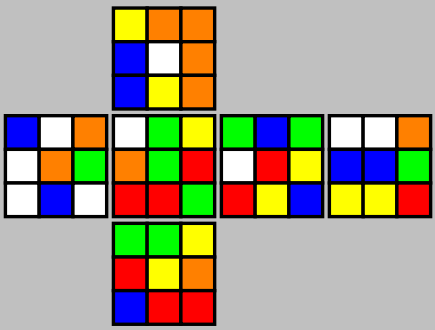
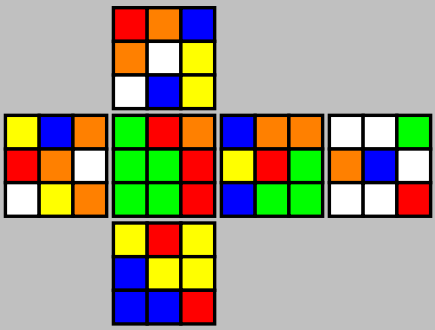
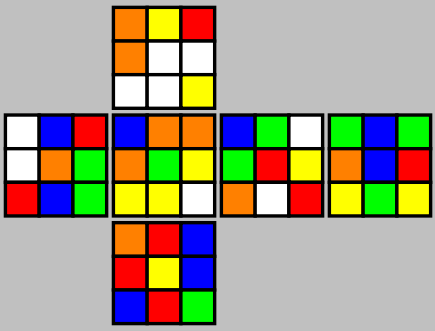
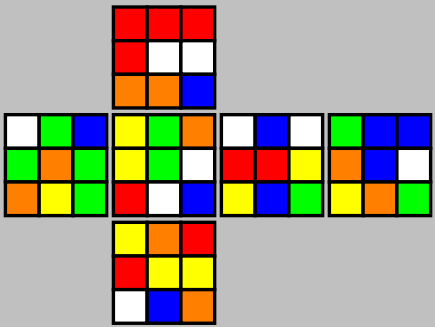
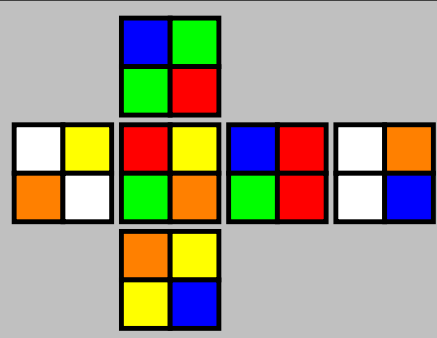
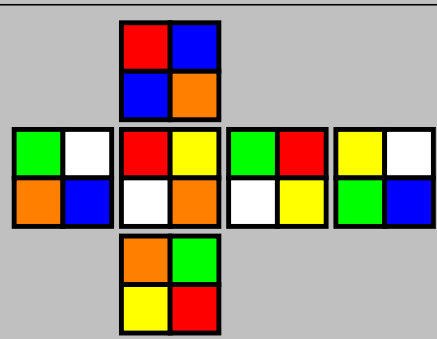
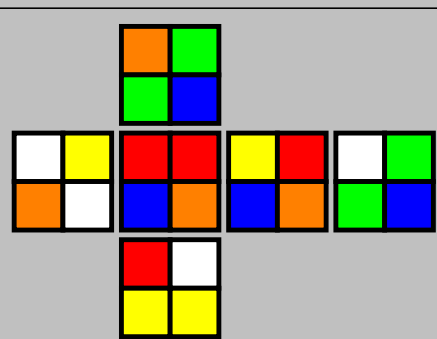
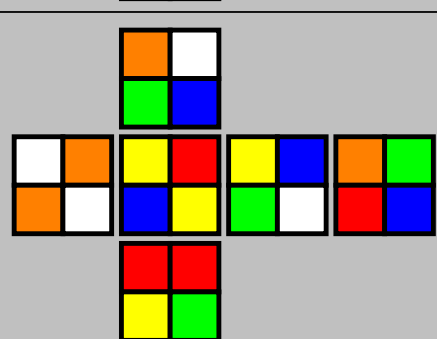
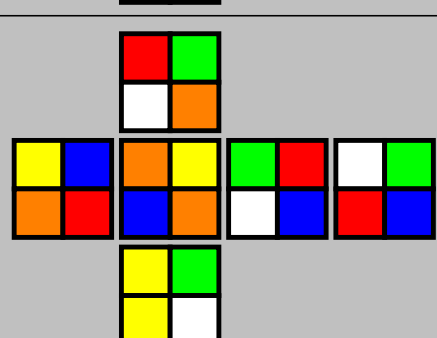
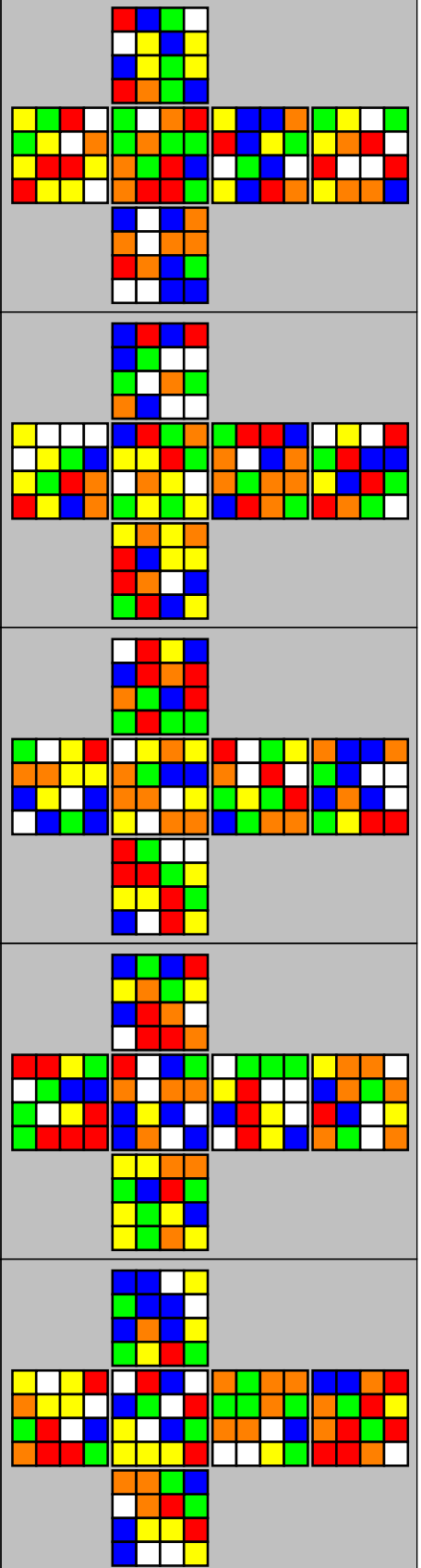
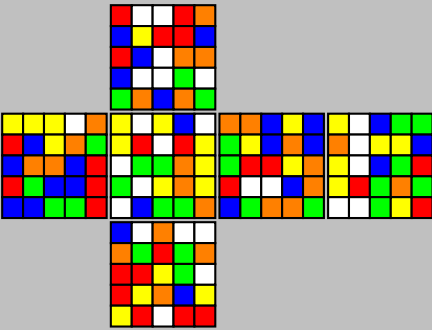
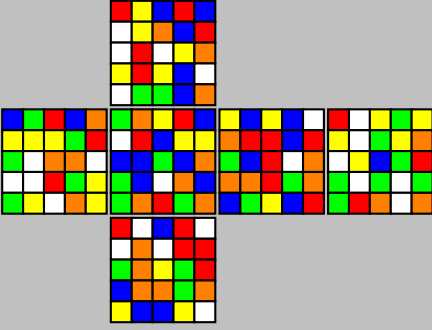
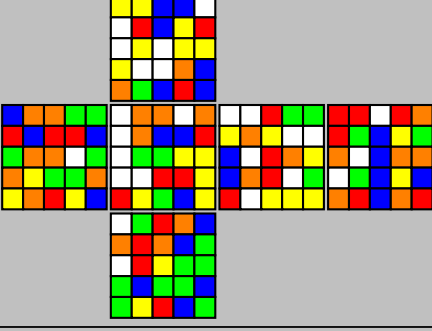
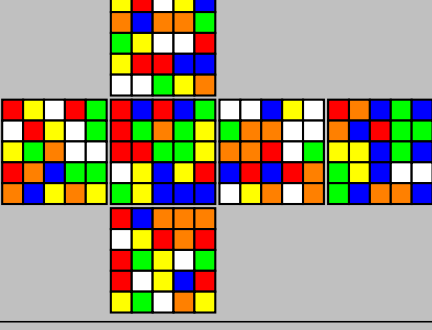
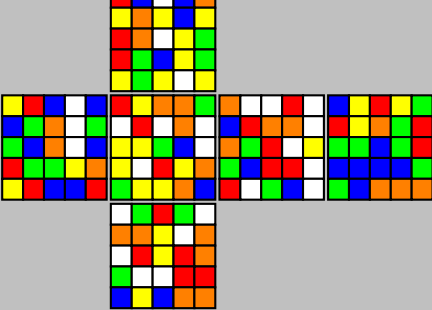


1.	<p>F2 B' R' U B R' D B'</p> <p>U' L U' F2 R2 L2 U' F2</p> <p>B2 U' R2 D' R2</p>	
2.	<p>R2 D2 L' D2 R F2 R' B2</p> <p>R B2 R' B' F U' B L</p> <p>B L D' F'</p>	
3.	<p>R' U2 L' D2 R' B2 R D2</p> <p>R' B2 R F' L2 R D' U2</p> <p>F' L B' U B2</p>	
4.	<p>L2 U F2 D U B2 R2 F2</p> <p>L2 F U' L D B' U' B2</p> <p>D F2 U' F</p>	
5.	<p>R F2 R2 B U D' B R</p> <p>F R L' U' B2 L2 U2 D'</p> <p>R2 U' F2 D'</p>	

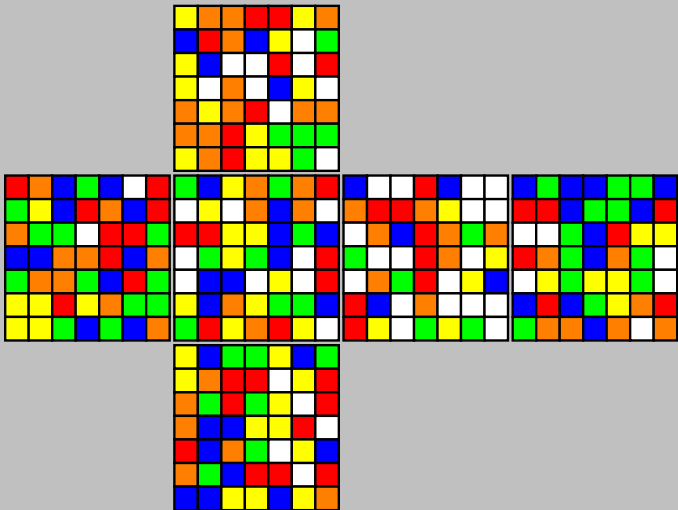
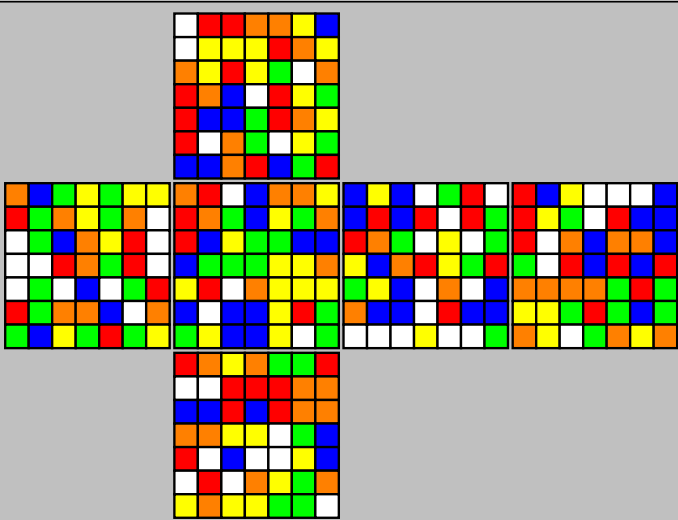
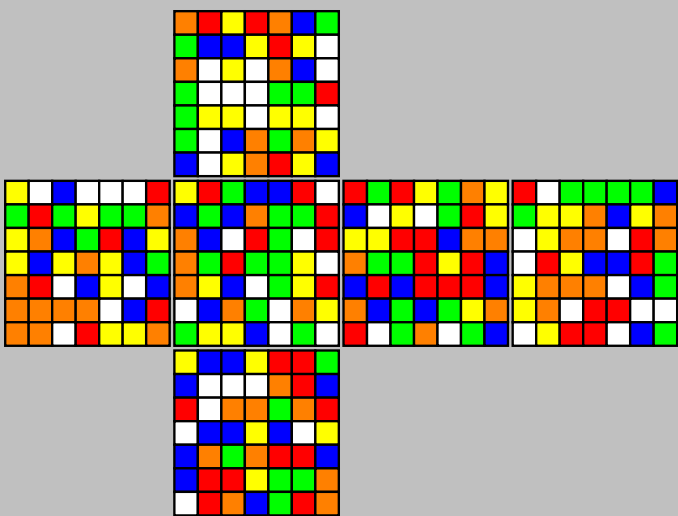
1.	$R' F^2 U' F U' R U' R U^2 R^2 U'$	
2.	$R' F' R^2 F R U^2 R' U' F R^2 U^2$	
3.	$U^2 R' F^2 U' F R^2 U' R^2 U R^2 U^2$	
4.	$R' F U^2 R U R^2 U^2 R^2 F U' R^2$	
5.	$R' F' U R^2 U' F' R' U^2 R F' R'$	

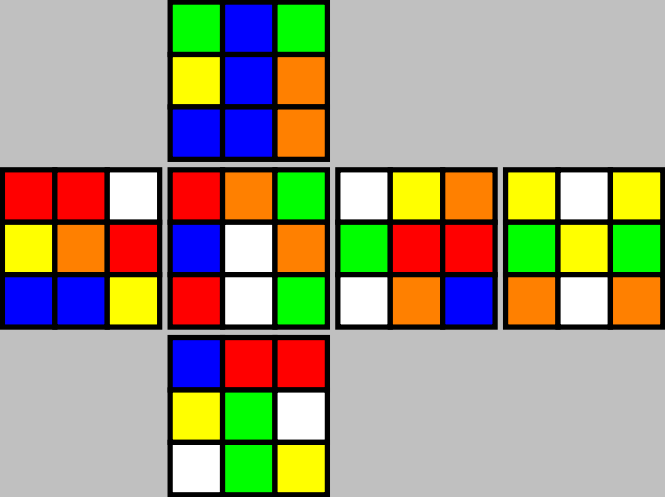
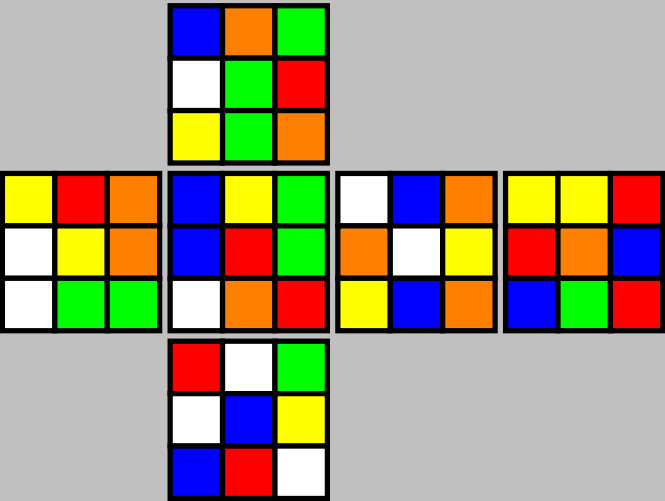
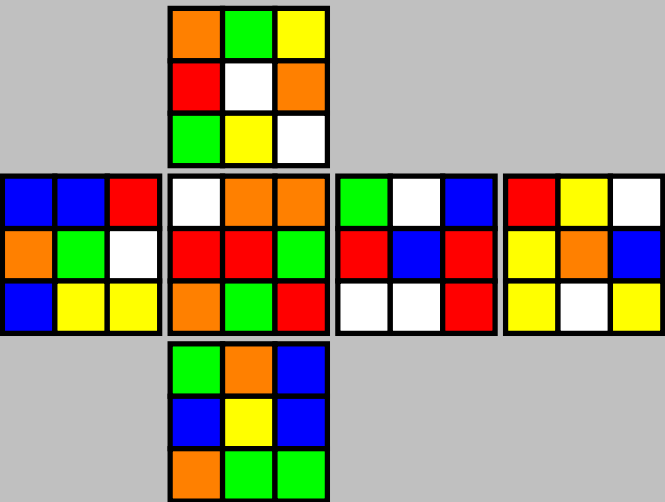
1.	R2	L'	Rw	D	U2	Fw	U2
	L	D'	Uw2	R2	Uw2	U'	D'
	R'	L'	Rw'	Fw2	Uw'	D2	F2
	Rw'	L'	B2	L	Fw	U2	F2
	D2	Rw'	L'	Fw	F	Rw'	D'
	F2	Fw'	Rw2	R2	U		
2.	Uw'	Fw	D'	R2	Fw	R	L
	U'	B2	Fw	Uw	Fw'	F2	Rw
	Fw'	D2	L2	Rw'	D2	Fw'	R2
	D2	U'	L2	U2	L'	Rw'	Fw2
	L2	Fw	U2	D'	Uw'	F'	D
	R2	F'	Rw	F	U2		
3.	L2	Rw	F'	B	Rw2	F	L2
	F'	Fw'	D'	R2	Fw	Rw	R
	Uw'	B	R	B2	R2	B	U
	D'	Fw	L	Uw	F'	Rw2	L
	Fw'	F2	B'	D	U'	B2	U
	D'	Uw'	Rw2	R2	D		
4.	Uw2	L	U2	Fw	Rw	Uw'	Fw2
	D2	L2	Fw	R2	L	D	Uw'
	U	F'	Rw	R'	F'	Fw	Rw'
	U'	F	Fw2	D	R'	Uw2	B'
	Uw'	D2	B2	Rw	U	R2	F'
	L'	Uw'	F2	R2	Uw		
5.	R2	B	U'	R	D2	U2	R'
	L2	Rw2	Uw2	L	D2	R	L2
	B	L'	Fw'	R	Rw'	D'	B2
	F2	D'	L2	U	R	Rw2	B2
	D	L2	Fw	B'	Rw2	D'	Fw
	F2	R	Uw2	Rw	B'		

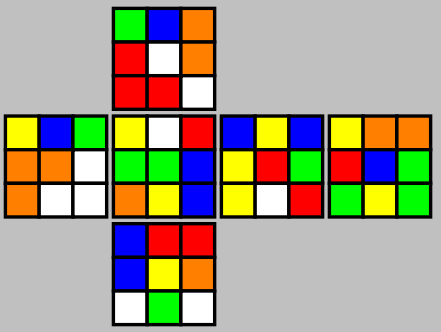
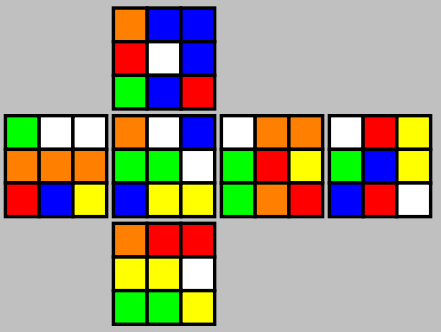
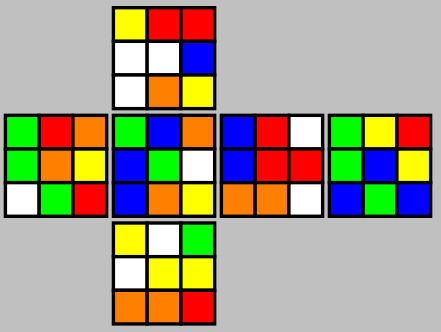
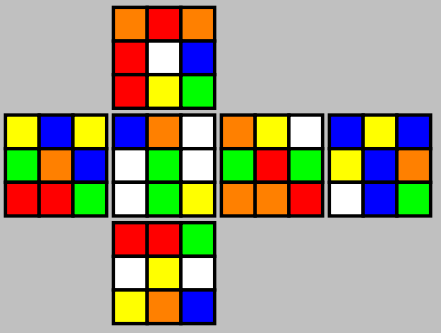
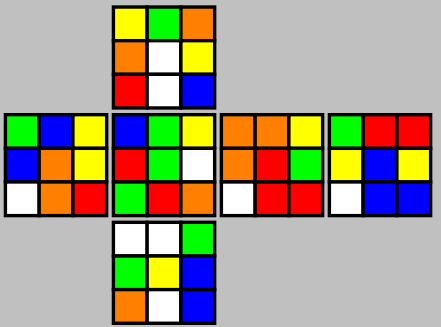


1.	D' Fw' Rw2 Uw Bw Lw Rw' Dw B' Dw' D Rw' Lw' R' L2 B' Bw U Fw' F L2 B Rw L' D' Fw' Dw F2 Uw2 U Bw B' D L' Dw2 Rw2 F' Uw R D2 Rw U Lw' Dw Rw2 Dw Uw D R2 Rw2 Dw' F' Bw2 B Rw' L' F' B Fw L'	
2.	U' Uw' Bw2 Dw Uw Fw2 R' L2 Lw2 Fw R2 U B F2 D Uw' Dw' L' F2 Lw2 L Dw R' Rw Uw' R Uw' F' Rw Dw L' Dw' D2 Uw R' B R' Rw' Bw' Uw Lw' L2 Fw' U2 Lw' D2 L Fw2 Dw L Bw F' Uw2 D F U D2 F Lw2 Rw2	
3.	Uw' Bw Fw2 R2 Bw' B2 Lw2 R2 B' Dw L2 R' Lw Uw2 Bw R L' Uw Lw Fw2 U2 Lw2 Dw' Fw' R U' F' Bw2 B2 Fw' Lw Bw' L' R B Uw2 B' D' F L2 Uw2 Bw2 U' R2 U' Lw Rw2 Uw2 R' F2 Fw Uw' F2 Uw Lw2 R Fw Uw' R' B	
4.	Rw D2 Dw2 Bw' Uw' L' B D' Rw' Fw Uw D2 Dw2 L2 Dw' Uw F2 U2 Bw2 U Lw2 R' Dw2 Uw2 R Fw2 Dw2 Lw D2 Lw2 D' Dw R' L Rw F Bw2 L Uw B Dw F2 Fw2 L2 Uw2 U' L2 U L B2 R U' Dw' L' Rw2 Fw' Bw2 Uw Lw' D	
5.	Lw' Uw Fw Rw2 F2 Dw' B' Fw2 Rw2 Bw' Uw2 B2 U Bw U Lw Uw Lw R2 D' U' Uw2 Dw2 Rw2 U Dw Uw2 R Uw2 Bw' D' Dw2 L' Bw Lw' B U' B2 F Fw Dw2 R2 U2 R2 L' B2 D2 L Dw Fw2 Lw' Uw2 F D' R Rw Bw' Dw2 R2 Lw'	

1.	Lw	3Fw'	3Uw2	Rw'	F'	Lw2
	3Uw'	Rw	3Fw	Lw	L	B
	Fw	F	Uw	D'	R'	F2
	Dw	Fw	3Uw'	3Rw'	B2	Uw2
	D	Bw2	3Rw	D	Lw	Fw2
	U2	Rw2	F	Fw	3Uw'	B
	3Uw2	Lw	D'	3Fw	Fw2	Lw2
	R	Fw'	R'	Dw'	Fw	Lw2
	Uw2	Rw2	R2	3Fw2	Bw	B'
	Fw'	F2	D2	Rw'	B	Dw'
	B2	F'	Bw2	3Rw'	Lw2	F
	3Rw	Fw2	Uw	3Fw'	3Uw2	Lw'
	3Uw2	3Fw2	R'	Bw'	R2	L2
	B	U'				
2.	D'	Uw'	Rw	Bw	R2	Lw'
	Dw2	D	3Fw	L2	U2	Uw
	3Fw2	F2	Bw'	Uw'	Lw'	F2
	Fw2	Bw2	3Fw2	Dw2	B2	U'
	D	R'	Rw2	D2	3Fw2	B
	U'	F2	R'	Dw2	3Uw'	Rw2
	B2	Fw	D'	R2	L	3Rw
	Uw2	Fw'	U	Uw2	Fw'	B
	D'	Bw'	U	F'	D2	R2
	Rw	Dw'	B	U'	L'	3Rw2
	Dw'	Bw2	F'	R2	3Fw'	Dw'
	Fw2	3Uw'	F2	Bw'	Lw'	3Uw
	Dw	R'	Bw	3Uw'	L2	3Uw'
	Rw'	3Rw				
3.	Fw	L'	Uw'	R2	Uw'	F'
	R	Bw'	3Fw2	Lw	3Uw	Dw2
	L'	Dw	F2	D'	U2	Fw'
	Dw2	Uw2	R	Rw'	B'	Uw
	Lw'	B	Fw	L	D2	Lw2
	Bw2	Fw'	3Uw2	U	F'	R
	Bw2	Fw	3Uw2	Fw'	Dw2	Rw2
	L	Fw2	B2	F2	3Fw'	Dw'
	Bw'	Rw	Bw'	Dw2	F	Fw2
	Bw	L	R2	Bw	3Fw	B2
	D'	B	Fw	Bw'	D	3Rw2
	Fw	F'	Rw	D2	3Uw'	3Rw2
	F	U'	3Uw	R2	B	Uw2
	3Rw	3Uw'				

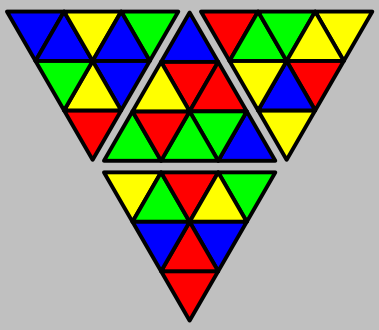
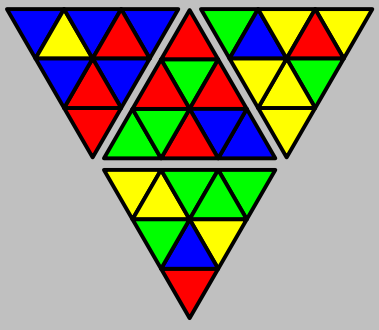
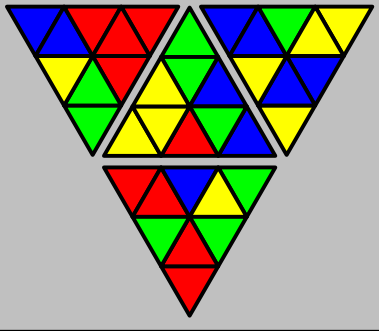
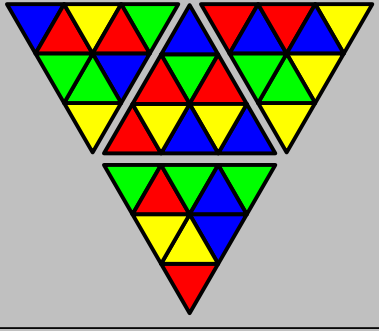
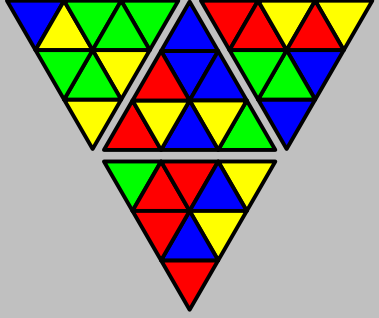
1.	<div>3Uw L2 Rw' F2 D' 3Lw2 R2</div> <div>Fw' 3Lw2 Uw B Uw' 3Lw' B</div> <div>D' Lw' R D Rw2 3Dw2 Lw'</div> <div>3Rw 3Fw 3Uw' R' 3Dw 3Fw' 3Rw</div> <div>Rw' 3Bw' F R L' 3Dw Rw2</div> <div>Fw Rw U2 D' F' Uw2 B'</div> <div>3Uw Lw 3Lw' B 3Bw' Rw Dw2</div> <div>L Uw' Lw' Fw' Lw2 U2 Fw'</div> <div>F Rw F2 Lw R' 3Fw' 3Dw'</div> <div>B L' D2 B' D2 3Bw 3Rw'</div> <div>Lw Fw2 Uw 3Fw D2 Uw Bw2</div> <div>Uw' 3Rw' B2 Uw2 Lw Uw2 Dw'</div> <div>3Lw' B2 Rw' 3Lw2 U Dw' D</div> <div>L' Fw' 3Lw' 3Fw2 Dw2 R D2</div> <div>Uw2 Bw2</div>	
2.	<div>R' 3Lw2 Bw2 Dw R2 F2 D</div> <div>3Bw 3Rw2 Uw2 3Dw2 Fw R2 Fw2</div> <div>3Bw' Lw Bw' 3Fw Fw' 3Dw2 Lw</div> <div>3Fw R F' Uw D2 B Rw2</div> <div>3Rw2 R2 Fw2 Dw2 L Uw' 3Rw'</div> <div>Uw Dw2 B F 3Uw Rw2 3Rw2</div> <div>B2 Uw' 3Dw2 D2 3Uw B Rw</div> <div>3Lw2 Dw2 F2 3Fw D2 3Bw 3Rw'</div> <div>D2 L' Fw2 D' Lw F R</div> <div>Rw' U Bw' L2 Dw2 B' D</div> <div>F B' D Uw' Lw R 3Rw'</div> <div>3Lw2 Dw Rw 3Lw 3Fw F' Fw2</div> <div>3Lw B2 3Lw Uw' D R 3Rw2</div> <div>Uw' D Rw' 3Lw2 R2 Lw2 D2</div> <div>Lw2 3Dw'</div>	
3.	<div>Dw' 3Rw' 3Bw Dw 3Uw' 3Bw2 Lw</div> <div>3Rw' 3Bw 3Dw Uw D U' 3Bw</div> <div>Rw' 3Lw 3Fw B' U' 3Fw' 3Rw</div> <div>3Bw' Bw Uw2 D 3Lw' D F</div> <div>3Dw F 3Lw2 3Dw2 Bw 3Lw' L'</div> <div>3Fw2 Uw' F Rw' L' R 3Bw2</div> <div>Rw' F Lw' R 3Dw2 3Uw 3Lw2</div> <div>Dw2 3Uw2 U2 F' U L2 3Fw'</div> <div>3Rw 3Uw' Fw L' 3Lw Fw2 Rw</div> <div>Dw' U' 3Rw' D2 Rw' U 3Dw</div> <div>Dw' F 3Rw 3Dw2 3Rw' 3Uw' B</div> <div>U2 3Bw' 3Uw2 F2 L' B' Lw</div> <div>D2 3Uw' 3Dw2 Lw2 3Lw L' D2</div> <div>3Lw' 3Rw2 3Fw2 Bw 3Dw2 D 3Uw'</div> <div>3Fw' D</div>	

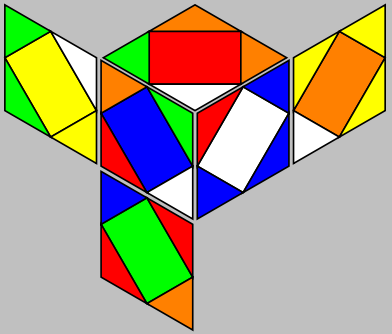
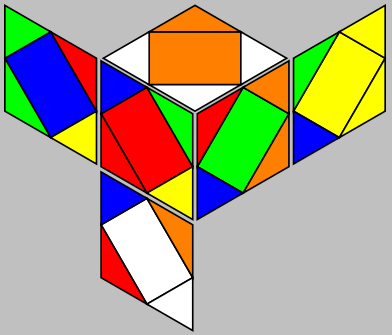
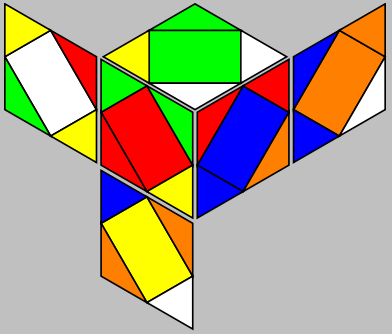
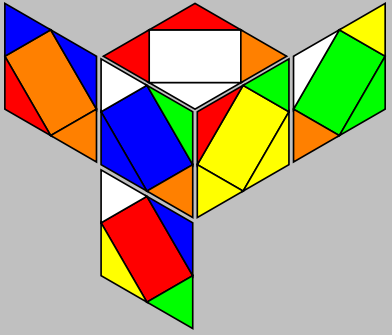
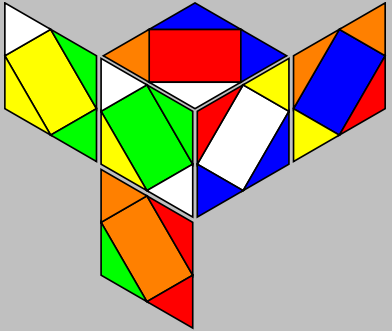
1.	<p>B2 R' F2 D2</p> <p>F2 R' B2 L'</p> <p>B2 F2 L2 U</p> <p>R2 B' L B'</p> <p>L' U B D2</p> <p>Rw'</p>	
2.	<p>R2 F2 D2 L2 R2 U</p> <p>F2 D R' F' L2 D2</p> <p>B L2 D' L R' F'</p> <p>D U' Rw Uw</p>	
3.	<p>U' L2 R2 D' B2 D'</p> <p>L2 B2 D F2 R' D</p> <p>F' L' U2 R' F' U'</p> <p>B L' F' Uw</p>	

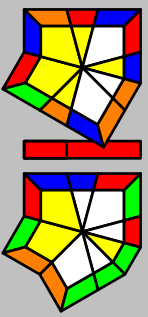
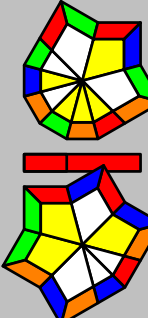
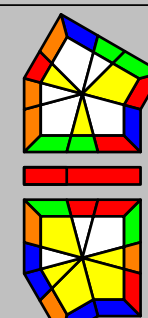
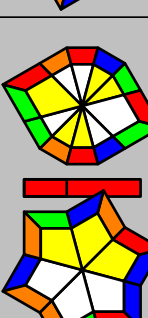

1.	<p>B2 F2 D L2 U2 R2 U2 B</p> <p>R' B U' B L2 F' R U</p> <p>B' R U'</p>	
2.	<p>D F2 L2 F2 U L2 B2 D</p> <p>B2 F R F' L D B L</p> <p>U2 B R D2</p>	
3.	<p>B2 F' U2 R2 F R2 B2 U2</p> <p>L2 U' R F2 R2 B2 D L2</p> <p>B'</p>	
4.	<p>F2 R' B2 D2 R' D2 B2 L</p> <p>U2 F' L' U' R2 U' B U</p> <p>F' R2 U2 R</p>	
5.	<p>B D B' R F2 R' F2 D</p> <p>B2 L' U2 L2 D F2 R2 D'</p> <p>F2 U2 R2</p>	

2019-06-05

pyram
Scrambles for 2019-06-05

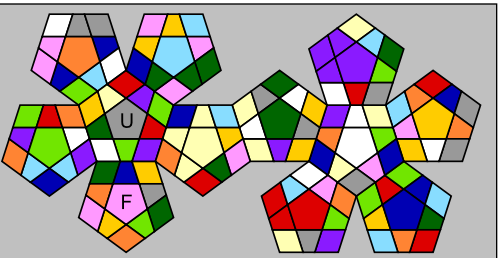
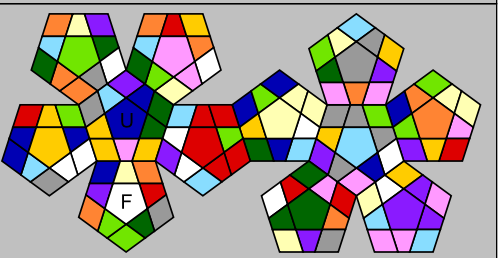
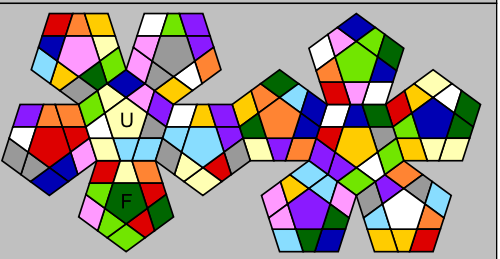
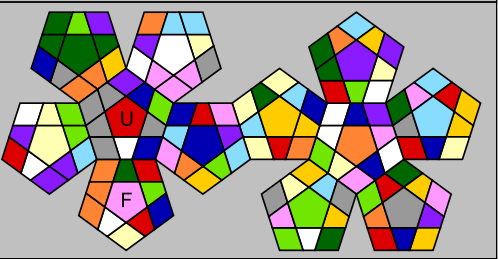
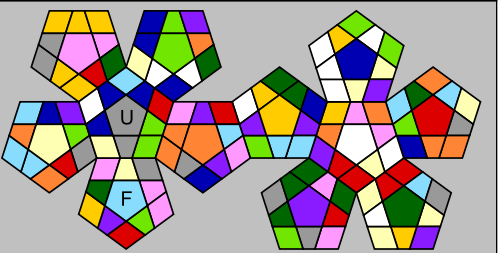
1.	$L B' U' L R' B U L' R U' B u' l' r'$	
2.	$R B' U L' U B' U B L' R L' u' b'$	
3.	$U R U' B R U' B U L' B' R r'$	
4.	$U' B U' B' U' R B' U B L' U' u l' r b$	
5.	$B' L' R B' R' U' R U B' U B' l' r' b'$	

1.	U L R U' R' U L R B' U' L'	
2.	R L R' U' B R L' B' U L' B'	
3.	L B R B R U' B L U L B'	
4.	U L B L R B' R' B L U L	
5.	B U B U B' R U R' L B' L	

1.	$(-5, 0) / (3, 0) / (3, 3) /$ $(0, -3) / (-4, -3) / (-3, -3) /$ $(-2, -5) / (4, 0) / (-2, 0) /$ $(-5, -4) /$	
2.	$(0, -4) / (-3, 0) / (-2, -5) /$ $(3, 0) / (-1, -1) / (-3, 0) /$ $(0, -2) / (-3, -3) / (6, -3) /$ $(-4, -2) / (-4, 0) / (0, -2) /$	
3.	$(1, -3) / (-1, -4) / (4, -5) /$ $(-1, 0) / (3, 0) / (1, -4) /$ $(0, -4) / (0, -2) / (5, 0) /$ $(2, 0) / (0, -4) / (-2, 0) /$	
4.	$(1, 3) / (3, 0) / (-4, -1) /$ $(3, 0) / (-3, 0) / (-5, -2) /$ $(0, -1) / (-3, -3) / (-1, 0) /$ $(-4, -4) / (0, -2)$	
5.	$(0, -1) / (0, 3) / (-2, -2) /$ $(3, 0) / (3, 0) / (-4, -3) /$ $(-3, 0) / (3, 0) / (-3, -3) /$ $(-2, 0) / (-2, 0) / (-4, -3) /$ $(6, 0) /$	

2019-06-05

minx
Scrambles for 2019-06-05

1.	R++ D++ R++ D-- R-- D++ R++ D++ R++ D++ U R-- D-- R++ D++ R++ D-- R-- D-- R-- D++ U R-- D-- R++ D-- R++ D-- R++ D-- R++ D++ U R++ D-- R-- D-- R-- D-- R++ D++ R-- D-- U' R++ D++ R++ D++ R++ D++ R++ D++ R-- D-- U' R-- D++ R-- D++ R-- D++ R-- D-- R++ D-- U' R++ D++ R++ D-- R++ D++ R++ D-- R-- D-- U'	
2.	R-- D++ R++ D-- R-- D-- R-- D++ R++ D++ U R++ D-- R++ D-- R++ D-- R-- D-- R-- D++ U R-- D++ R-- D-- R++ D++ R++ D++ R++ D++ U R-- D-- R-- D-- R++ D-- R++ D-- R-- D++ U R-- D-- R-- D++ R-- D-- R-- D++ R-- D++ U R++ D-- R-- D-- R-- D-- R++ D++ R-- D-- U' R++ D-- R++ D++ R++ D-- R-- D++ R++ D++ U	
3.	R++ D++ R-- D++ R++ D++ R++ D++ R-- D-- U' R-- D-- R-- D++ R++ D-- R-- D++ R++ D++ U R++ D-- R++ D-- R-- D-- R++ D++ R++ D++ U R++ D-- R++ D-- R++ D++ R-- D-- R-- D-- U' R-- D++ R++ D-- R++ D-- R-- D-- R++ D-- U' R++ D++ R++ D-- R++ D++ R++ D++ R-- D++ U R++ D-- R-- D-- R-- D++ R-- D-- R++ D-- U'	
4.	R-- D-- R++ D++ R++ D++ R++ D++ R++ D-- U' R++ D++ R-- D-- R++ D-- R++ D++ R-- D++ U R-- D-- R++ D++ R-- D-- R++ D++ R++ D++ U R-- D++ R-- D++ R-- D-- R-- D-- R-- D-- U' R-- D++ R++ D-- R++ D-- R++ D-- R++ D-- U' R++ D++ R++ D++ R-- D-- R-- D-- R-- D-- U' R-- D++ R-- D-- R-- D++ R++ D-- R++ D-- U'	
5.	R++ D-- R++ D-- R++ D++ R-- D++ R-- D-- U' R++ D-- R-- D-- R-- D-- R-- D-- R-- D++ U R++ D-- R-- D++ R++ D-- R-- D-- R++ D-- U' R++ D-- R++ D++ R++ D++ R++ D++ R++ D++ U R-- D++ R-- D++ R-- D++ R-- D-- R-- D++ U R++ D++ R++ D-- R++ D++ R-- D++ R-- D++ U R-- D++ R-- D++ R-- D++ R-- D++ R++ D-- R++ D-- U'	

2019-06-05

 clock
 Scrambles for 2019-06-05

1.	UR1- DR1- DL5- UL0+ U3+ R4- D5+ L3+ ALL4+ y2 U4- R2+ D0+ L0+ ALL3+ UR DR UL	
2.	UR6+ DR2- DL3- UL1- U1+ R4- D5+ L1- ALL0+ y2 U6+ R4+ D4- L3+ ALL1- UR DR UL	
3.	UR1- DR1+ DL4- UL3+ U5+ R6+ D2- L3- ALL4+ y2 U4+ R4- D5- L5- ALL3+ UR DL UL	
4.	UR2+ DR3- DL1- UL5+ U3- R6+ D3- L2+ ALL3- y2 U1+ R2+ D4- L0+ ALL1+ DL	
5.	UR4+ DR3- DL6+ UL0+ U5- R4- D6+ L5+ ALL0+ y2 U3+ R2- D4+ L6+ ALL5+ DR DL	

Fewest Moves

- > You have 60 minutes to find and write a solution.
- > Write 1 move per bar. To delete a move, clearly blacken it.
- > Your solution must not be directly derived from any part of the scrambling algorithm.
- > Your solution must be at most 80 moves, including rotations.
- > Your result will be counted in OBTM.
- > Only use notation from Article 12 of the WCA Regulations. If you are uncertain, use only the exact moves listed here:

Face Moves

Clockwise	F	R	U	B	L	D
Counter-clockwise	F'	R'	U'	B'	L'	D'
Double	F2	R2	U2	B2	L2	D2

Rotations

Clockwise	[f]	[r]	[u]	[b]	[l]	[d]
Counter-clockwise	[f']	[r']	[u']	[b']	[l']	[d']
Double	[f2]	[r2]	[u2]	[b2]	[l2]	[d2]

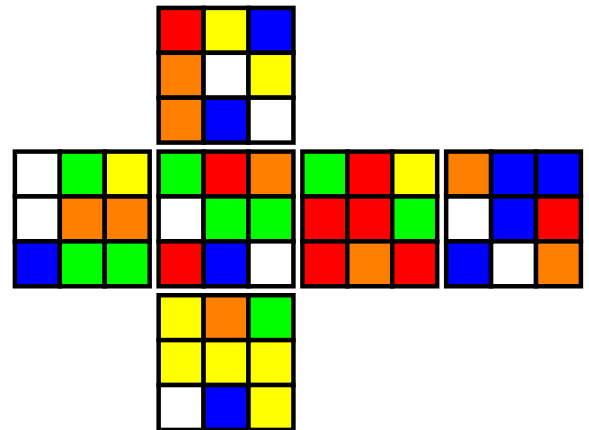
Scrambles for 2019-06-05
333fm

Competitor: _____

WCA ID: _____

DO NOT FILL IF YOU ARE THE COMPETITOR.

Graded by: _____ Result: ____



Scramble: R' U' F L' B2 L2 D2 F2 D2 R F2 L' F2 D' F U' L D' F R' F R2 U2 R' U' F

This image shows a full page of blank graph paper. The grid consists of evenly spaced horizontal and vertical lines forming small squares across the entire area. There are no margins, text, or other markings on the page.

Fewest Moves

- > You have 60 minutes to find and write a solution.
- > Write 1 move per bar. To delete a move, clearly blacken it.
- > Your solution must not be directly derived from any part of the scrambling algorithm.
- > Your solution must be at most 80 moves, including rotations.
- > Your result will be counted in OBTM.
- > Only use notation from Article 12 of the WCA Regulations. If you are uncertain, use only the exact moves listed here:

Face Moves

Clockwise	F	R	U	B	L	D
Counter-clockwise	F'	R'	U'	B'	L'	D'
Double	F2	R2	U2	B2	L2	D2

Rotations

Clockwise	[f]	[r]	[u]	[b]	[l]	[d]
Counter-clockwise	[f']	[r']	[u']	[b']	[l']	[d']
Double	[f2]	[r2]	[u2]	[b2]	[l2]	[d2]

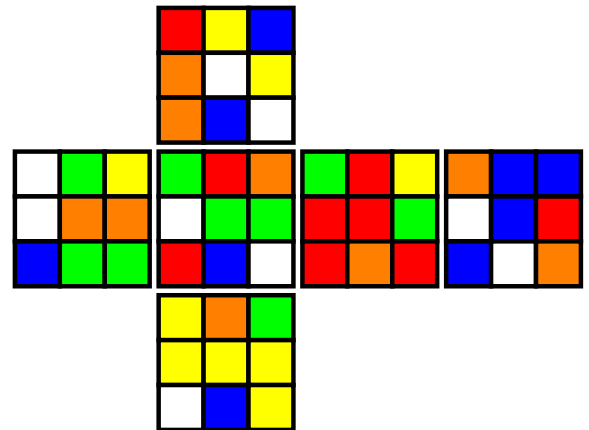
Scrambles for 2019-06-05
333fm

Competitor: _____

WCA ID: _____

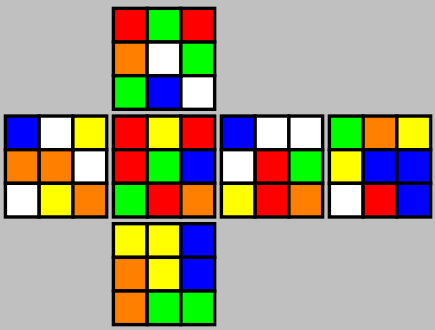
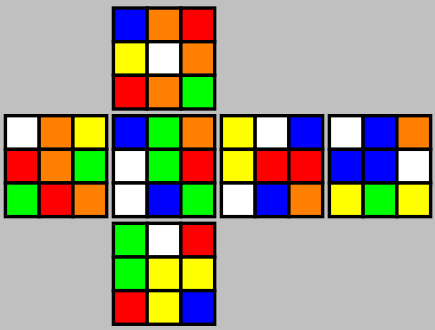
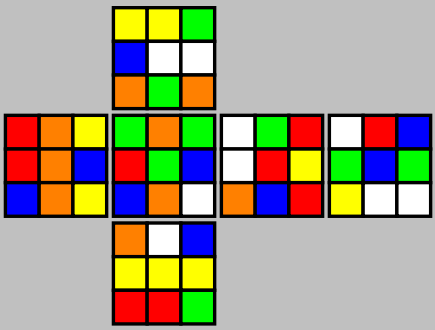
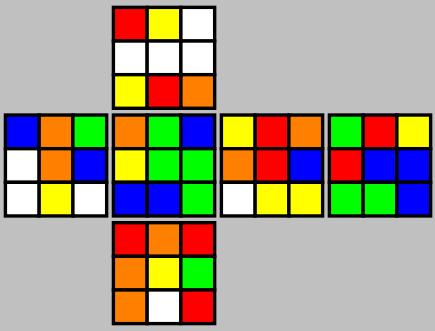
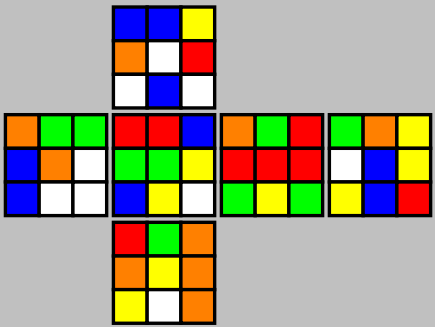
DO NOT FILL IF YOU ARE THE COMPETITOR.

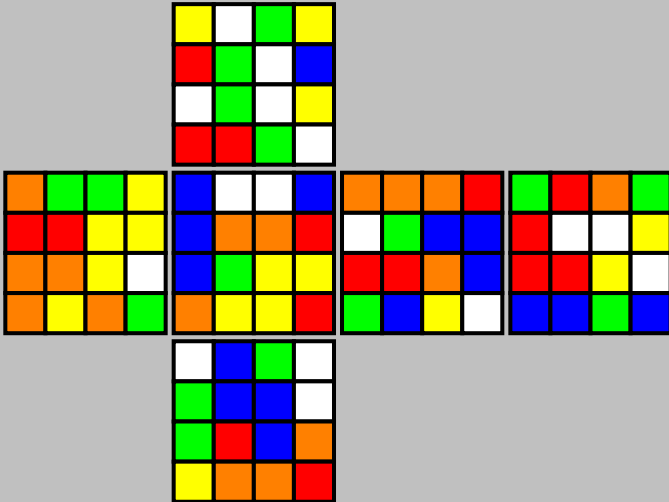
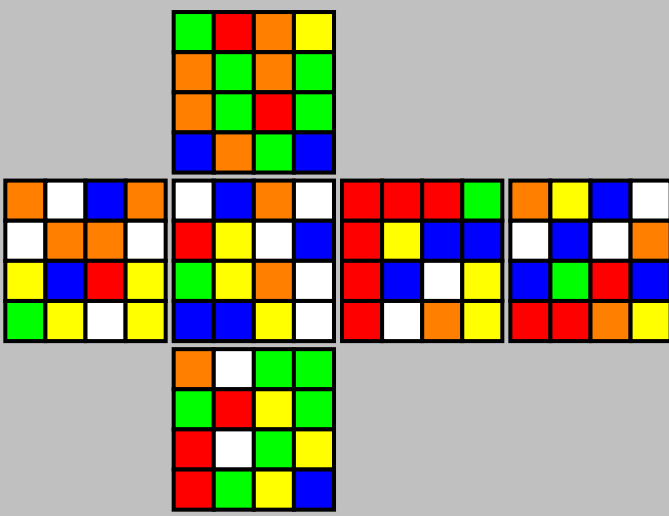
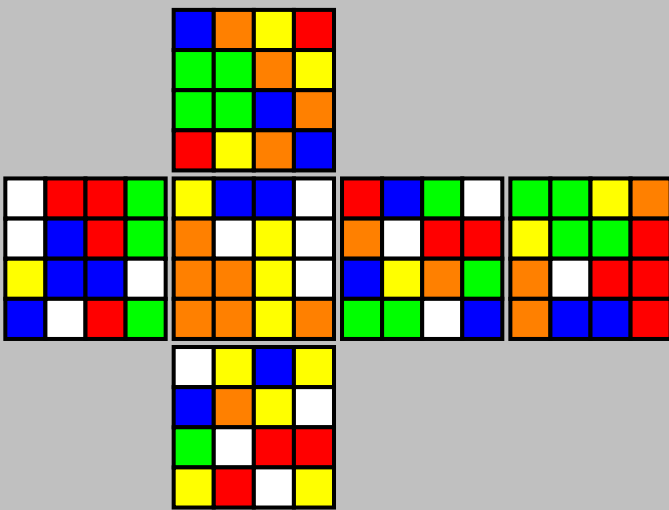
Graded by: _____ Result: ____

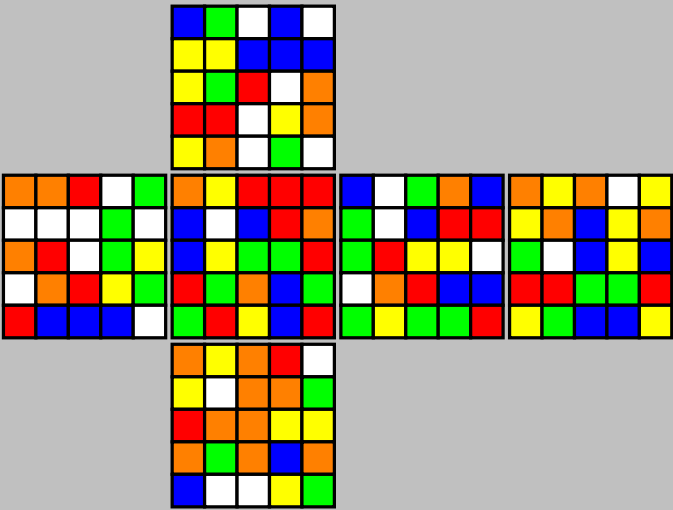
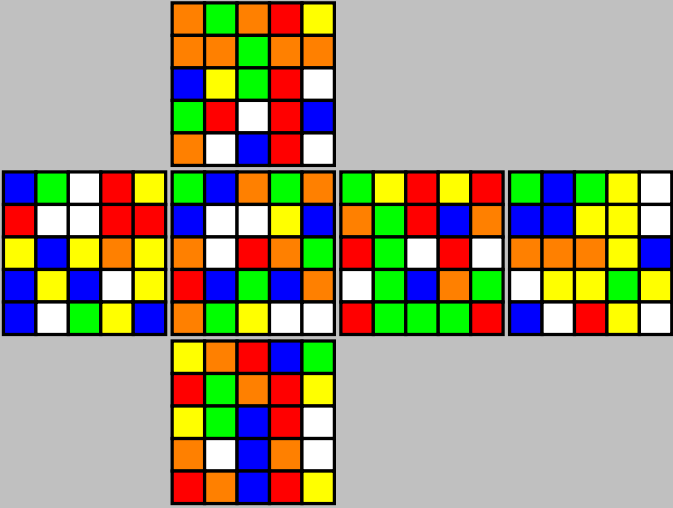
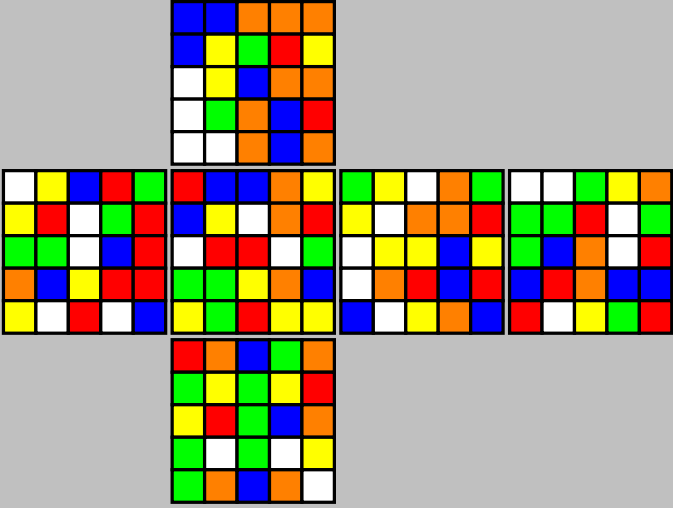


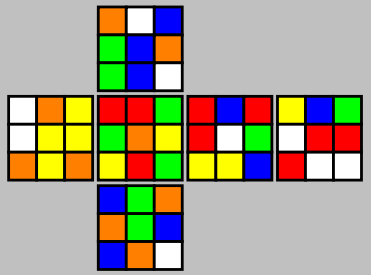
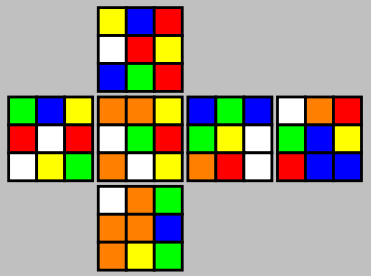
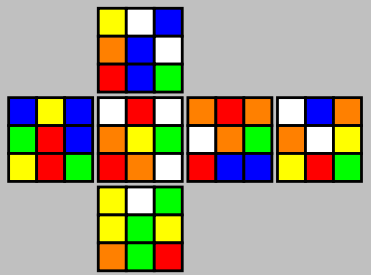
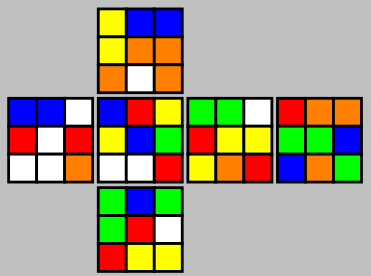
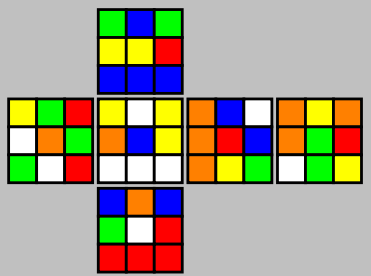
Scramble: R' U' F L' B2 L2 D2 F2 D2 R F2 L' F2 D' F U' L D' F R' F R2 U2 R' U' F

A blank sheet of white paper featuring a light gray grid pattern. The grid consists of evenly spaced horizontal and vertical lines, creating a series of small squares across the entire page. There are no margins, text, or other markings on the paper.

1.	L B2 L2 F2 U2 B2 L U2 R2 F' R2 D' U' R2 B L' B' R2 U2 R'	
2.	R2 U L2 F2 R2 U2 F2 U' B D B L2 D' U R2 F L' U2	
3.	F2 L' F2 U2 L2 R' D2 R B2 D' L F2 U2 F R2 F D' L' F D2	
4.	D2 B' R2 F2 L2 B F' R' F U2 F2 U R' F' L2 B' F'	
5.	F D2 F L2 F U2 F U2 F' L' R' D F D2 B U L2 B R2 B'	

1.	<table><tr><td>U2</td><td>B2</td><td>R'</td><td>U2</td><td>B2</td></tr><tr><td>D2</td><td>L</td><td>B2</td><td>L'</td><td>B</td></tr><tr><td>D2</td><td>R</td><td>D</td><td>B'</td><td>F2</td></tr><tr><td>D</td><td>B</td><td>R</td><td>F</td><td>Fw2</td></tr><tr><td>D</td><td>Fw2</td><td>Uw2</td><td>B2</td><td>Uw2</td></tr><tr><td>B</td><td>F'</td><td>L2</td><td>D</td><td>L2</td></tr><tr><td>F'</td><td>Rw'</td><td>B'</td><td>U2</td><td>Fw2</td></tr><tr><td>R'</td><td>U2</td><td>Rw2</td><td>Fw'</td><td>Rw'</td></tr><tr><td>Fw</td><td>B2</td><td>F2</td><td>Uw'</td><td>Fw</td></tr><tr><td>x2</td><td>y'</td><td></td><td></td><td></td></tr></table>	U2	B2	R'	U2	B2	D2	L	B2	L'	B	D2	R	D	B'	F2	D	B	R	F	Fw2	D	Fw2	Uw2	B2	Uw2	B	F'	L2	D	L2	F'	Rw'	B'	U2	Fw2	R'	U2	Rw2	Fw'	Rw'	Fw	B2	F2	Uw'	Fw	x2	y'				
U2	B2	R'	U2	B2																																																
D2	L	B2	L'	B																																																
D2	R	D	B'	F2																																																
D	B	R	F	Fw2																																																
D	Fw2	Uw2	B2	Uw2																																																
B	F'	L2	D	L2																																																
F'	Rw'	B'	U2	Fw2																																																
R'	U2	Rw2	Fw'	Rw'																																																
Fw	B2	F2	Uw'	Fw																																																
x2	y'																																																			
2.	<table><tr><td>U</td><td>F</td><td>R2</td><td>L'</td><td>D</td></tr><tr><td>B</td><td>R2</td><td>U2</td><td>L</td><td>D2</td></tr><tr><td>U2</td><td>F'</td><td>D2</td><td>B</td><td>L2</td></tr><tr><td>B2</td><td>R2</td><td>B'</td><td>U2</td><td>F'</td></tr><tr><td>Uw2</td><td>B</td><td>Uw2</td><td>R</td><td>Uw2</td></tr><tr><td>F</td><td>L</td><td>U2</td><td>Rw2</td><td>Fw2</td></tr><tr><td>L'</td><td>Fw2</td><td>F'</td><td>Uw</td><td>B</td></tr><tr><td>D2</td><td>L</td><td>Fw</td><td>Uw'</td><td>F</td></tr><tr><td>Uw2</td><td>Fw2</td><td>L2</td><td>Fw</td><td>x'</td></tr><tr><td>y2</td><td></td><td></td><td></td><td></td></tr></table>	U	F	R2	L'	D	B	R2	U2	L	D2	U2	F'	D2	B	L2	B2	R2	B'	U2	F'	Uw2	B	Uw2	R	Uw2	F	L	U2	Rw2	Fw2	L'	Fw2	F'	Uw	B	D2	L	Fw	Uw'	F	Uw2	Fw2	L2	Fw	x'	y2					
U	F	R2	L'	D																																																
B	R2	U2	L	D2																																																
U2	F'	D2	B	L2																																																
B2	R2	B'	U2	F'																																																
Uw2	B	Uw2	R	Uw2																																																
F	L	U2	Rw2	Fw2																																																
L'	Fw2	F'	Uw	B																																																
D2	L	Fw	Uw'	F																																																
Uw2	Fw2	L2	Fw	x'																																																
y2																																																				
3.	<table><tr><td>U2</td><td>L2</td><td>U'</td><td>L2</td><td>B2</td></tr><tr><td>U</td><td>B2</td><td>D</td><td>R2</td><td>U'</td></tr><tr><td>L</td><td>F2</td><td>D'</td><td>R'</td><td>D</td></tr><tr><td>L'</td><td>B'</td><td>F</td><td>R'</td><td>U</td></tr><tr><td>Rw2</td><td>B'</td><td>D2</td><td>Fw2</td><td>D2</td></tr><tr><td>U</td><td>F2</td><td>Uw2</td><td>B'</td><td>D'</td></tr><tr><td>B</td><td>L2</td><td>Rw'</td><td>D2</td><td>U</td></tr><tr><td>F'</td><td>L</td><td>Fw'</td><td>Rw2</td><td>R</td></tr><tr><td>Fw'</td><td>Uw</td><td>L'</td><td>D</td><td>L2</td></tr><tr><td>x2</td><td>y2</td><td></td><td></td><td></td></tr></table>	U2	L2	U'	L2	B2	U	B2	D	R2	U'	L	F2	D'	R'	D	L'	B'	F	R'	U	Rw2	B'	D2	Fw2	D2	U	F2	Uw2	B'	D'	B	L2	Rw'	D2	U	F'	L	Fw'	Rw2	R	Fw'	Uw	L'	D	L2	x2	y2				
U2	L2	U'	L2	B2																																																
U	B2	D	R2	U'																																																
L	F2	D'	R'	D																																																
L'	B'	F	R'	U																																																
Rw2	B'	D2	Fw2	D2																																																
U	F2	Uw2	B'	D'																																																
B	L2	Rw'	D2	U																																																
F'	L	Fw'	Rw2	R																																																
Fw'	Uw	L'	D	L2																																																
x2	y2																																																			

1.	<table><tr><td>Uw</td><td>Rw2</td><td>B2</td><td>Dw</td><td>D'</td></tr><tr><td>Uw'</td><td>F</td><td>Bw'</td><td>U</td><td>D</td></tr><tr><td>Rw</td><td>Lw</td><td>B</td><td>F'</td><td>Dw</td></tr><tr><td>U2</td><td>B</td><td>L2</td><td>F'</td><td>U2</td></tr><tr><td>L'</td><td>Rw</td><td>U2</td><td>Uw2</td><td>Dw</td></tr><tr><td>L</td><td>F'</td><td>L2</td><td>U2</td><td>Fw</td></tr><tr><td>Uw'</td><td>Rw2</td><td>F2</td><td>Rw2</td><td>D'</td></tr><tr><td>U'</td><td>Uw</td><td>R</td><td>B'</td><td>R</td></tr><tr><td>Lw'</td><td>B2</td><td>Bw</td><td>Fw2</td><td>U2</td></tr><tr><td>F2</td><td>Fw'</td><td>D'</td><td>R</td><td>Fw</td></tr><tr><td>U</td><td>B'</td><td>Fw</td><td>Uw2</td><td>R'</td></tr><tr><td>Bw'</td><td>D</td><td>Lw2</td><td>L2</td><td>Dw'</td></tr><tr><td>3Fw'</td><td></td><td></td><td></td><td></td></tr></table>	Uw	Rw2	B2	Dw	D'	Uw'	F	Bw'	U	D	Rw	Lw	B	F'	Dw	U2	B	L2	F'	U2	L'	Rw	U2	Uw2	Dw	L	F'	L2	U2	Fw	Uw'	Rw2	F2	Rw2	D'	U'	Uw	R	B'	R	Lw'	B2	Bw	Fw2	U2	F2	Fw'	D'	R	Fw	U	B'	Fw	Uw2	R'	Bw'	D	Lw2	L2	Dw'	3Fw'						
Uw	Rw2	B2	Dw	D'																																																																
Uw'	F	Bw'	U	D																																																																
Rw	Lw	B	F'	Dw																																																																
U2	B	L2	F'	U2																																																																
L'	Rw	U2	Uw2	Dw																																																																
L	F'	L2	U2	Fw																																																																
Uw'	Rw2	F2	Rw2	D'																																																																
U'	Uw	R	B'	R																																																																
Lw'	B2	Bw	Fw2	U2																																																																
F2	Fw'	D'	R	Fw																																																																
U	B'	Fw	Uw2	R'																																																																
Bw'	D	Lw2	L2	Dw'																																																																
3Fw'																																																																				
2.	<table><tr><td>Dw2</td><td>R'</td><td>U'</td><td>Fw2</td><td>Lw</td><td>R</td></tr><tr><td>Fw'</td><td>Uw2</td><td>F</td><td>D2</td><td>Uw'</td><td>Rw</td></tr><tr><td>Bw'</td><td>B</td><td>R2</td><td>Bw2</td><td>U2</td><td>Rw</td></tr><tr><td>L</td><td>F'</td><td>B2</td><td>U</td><td>Dw</td><td>F'</td></tr><tr><td>B2</td><td>L'</td><td>R2</td><td>U'</td><td>L</td><td>Rw2</td></tr><tr><td>F'</td><td>L2</td><td>Lw'</td><td>Rw</td><td>R2</td><td>Bw'</td></tr><tr><td>Rw</td><td>R'</td><td>Fw2</td><td>D</td><td>Dw</td><td>B</td></tr><tr><td>F</td><td>U2</td><td>D2</td><td>B'</td><td>Dw2</td><td>Rw</td></tr><tr><td>R</td><td>Bw</td><td>Uw2</td><td>Bw'</td><td>B'</td><td>Lw2</td></tr><tr><td>Dw</td><td>Uw</td><td>D'</td><td>Lw'</td><td>Bw</td><td>U'</td></tr><tr><td>3Rw</td><td>3Uw</td><td></td><td></td><td></td><td></td></tr></table>	Dw2	R'	U'	Fw2	Lw	R	Fw'	Uw2	F	D2	Uw'	Rw	Bw'	B	R2	Bw2	U2	Rw	L	F'	B2	U	Dw	F'	B2	L'	R2	U'	L	Rw2	F'	L2	Lw'	Rw	R2	Bw'	Rw	R'	Fw2	D	Dw	B	F	U2	D2	B'	Dw2	Rw	R	Bw	Uw2	Bw'	B'	Lw2	Dw	Uw	D'	Lw'	Bw	U'	3Rw	3Uw					
Dw2	R'	U'	Fw2	Lw	R																																																															
Fw'	Uw2	F	D2	Uw'	Rw																																																															
Bw'	B	R2	Bw2	U2	Rw																																																															
L	F'	B2	U	Dw	F'																																																															
B2	L'	R2	U'	L	Rw2																																																															
F'	L2	Lw'	Rw	R2	Bw'																																																															
Rw	R'	Fw2	D	Dw	B																																																															
F	U2	D2	B'	Dw2	Rw																																																															
R	Bw	Uw2	Bw'	B'	Lw2																																																															
Dw	Uw	D'	Lw'	Bw	U'																																																															
3Rw	3Uw																																																																			
3.	<table><tr><td>L</td><td>F2</td><td>D</td><td>Uw'</td><td>Lw'</td></tr><tr><td>F</td><td>U'</td><td>R</td><td>F</td><td>Uw2</td></tr><tr><td>Fw'</td><td>U2</td><td>Lw2</td><td>Bw2</td><td>Dw2</td></tr><tr><td>Lw'</td><td>D2</td><td>Uw2</td><td>Dw</td><td>B2</td></tr><tr><td>D'</td><td>Rw2</td><td>F</td><td>Bw</td><td>B2</td></tr><tr><td>D</td><td>Bw</td><td>Uw</td><td>F2</td><td>Uw'</td></tr><tr><td>D</td><td>Dw'</td><td>L2</td><td>R2</td><td>D</td></tr><tr><td>Uw'</td><td>L2</td><td>R'</td><td>B2</td><td>U2</td></tr><tr><td>F'</td><td>Rw'</td><td>D</td><td>L'</td><td>D2</td></tr><tr><td>R2</td><td>Rw</td><td>Bw'</td><td>L'</td><td>Rw'</td></tr><tr><td>Dw'</td><td>L2</td><td>R2</td><td>Rw'</td><td>U</td></tr><tr><td>Dw2</td><td>L'</td><td>Rw</td><td>B'</td><td>U2</td></tr><tr><td>3Rw'</td><td>3Uw</td><td></td><td></td><td></td></tr></table>	L	F2	D	Uw'	Lw'	F	U'	R	F	Uw2	Fw'	U2	Lw2	Bw2	Dw2	Lw'	D2	Uw2	Dw	B2	D'	Rw2	F	Bw	B2	D	Bw	Uw	F2	Uw'	D	Dw'	L2	R2	D	Uw'	L2	R'	B2	U2	F'	Rw'	D	L'	D2	R2	Rw	Bw'	L'	Rw'	Dw'	L2	R2	Rw'	U	Dw2	L'	Rw	B'	U2	3Rw'	3Uw					
L	F2	D	Uw'	Lw'																																																																
F	U'	R	F	Uw2																																																																
Fw'	U2	Lw2	Bw2	Dw2																																																																
Lw'	D2	Uw2	Dw	B2																																																																
D'	Rw2	F	Bw	B2																																																																
D	Bw	Uw	F2	Uw'																																																																
D	Dw'	L2	R2	D																																																																
Uw'	L2	R'	B2	U2																																																																
F'	Rw'	D	L'	D2																																																																
R2	Rw	Bw'	L'	Rw'																																																																
Dw'	L2	R2	Rw'	U																																																																
Dw2	L'	Rw	B'	U2																																																																
3Rw'	3Uw																																																																			

1.	B2 R2 D2 L2 D' L2 B2 D2 F2 U F U B2 F2 L' B' L2 D2 R F2 D2 Rw' Uw'	
2.	D2 B' F2 R2 D2 F R2 U2 R2 F' L B' U L2 U F2 R F2 D' R Fw'	
3.	R2 B2 U' B2 U2 L2 F2 L2 B2 L' U2 L' D2 U F L D L B' F2 Rw' Uw2	
4.	R2 D2 U2 R2 F L2 F' D2 B2 U' B D' B' D L R2 B2 R U2 Fw Uw2	
5.	R D2 R2 B2 R2 D' L2 F' D R' D L U' F' R' B Rw2	

6.	B2	F2	R'	B2	D2	F2	R2
	U2	B'	R'	B2	L	B	F'
	D'	U2	R'	B2	U'	Rw	Uw'

