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

| 1. | R' F U2 R2 U' R' U' F R2 F' U2 | |
|----|--------------------------------|--|
| 2. | R' U F' U' R U' R U' R' F' U2 | |
| 3. | R' F U2 R2 U2 F' U' R' U R' F | |
| 4. | R' F R U' R' U F U2 R2 U2 R' | |
| 5. | R F' R2 U' R U2 F U2 F U' R2 | |

444 Scrambles for 2019-05-17

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

| 1. | B' F Dw' Rw' | Fw' Dw Bw U Uw D2 | Uw2 Uw' Fw2 Uw2 R | F2 Lw2 D D2 B | L2 L2 Uw' F F2 L' | Uw' Bw' Dw Fw U | U2 L' L R' F | Bw2 B2 Uw D2 R' | Rw F2 U2 U2 Bw' U2 | |
|----|-----------------------|----------------------------------|-------------------------------|---------------------------|----------------------------------|-----------------------------|--------------------------|-----------------------------|-----------------------------------|---------|
| | L | Fw2 | Bw | D2 | R2 | Bw2 | DW | N . | UZ | |
| | R B' | Uw Dw | Dw' Uw' | Bw' Lw' | R2 D2 | Fw' Uw2 | Bw U | L2 Dw' | Dw Bw' | |
| | R' | D2 | Rw | Uw | В | L | Dw2 | R2 | Dw | |
| 2 | Uw2 | R2 | D | L2 | R | U2 | L2 | F | D | |
| 2. | Bw | FW | D2 | Dw2 | F2 | Lw2 | FW | U | D2 | |
| | R' | Uw2 | U' | R' | FW | D | L' | Lw | Dw' | |
| | Uw' | L2 | Fw' | B' | R' | Uw2 | _ | ∟vv | DVV | |
| | OW | LZ | ⊢w | ъ | Ι | UWZ | | | | |
| | Lw' | Rw' | Uw | Bw | F | Dw' | Uw' | Rw' | Uw | |
| | U | D | Lw' | Rw2 | B2 | Fw | U2 | Lw | U' | |
| | D2 | Ĺ' | F | L2 | U | D | R' | F' | Uw2 | |
| 3. | F' | R' | Fw' | L | R | Dw' | Rw2 | B2 | F' | |
| J. | Bw2 | Dw | Fw2 | F' | D | F | Dw2 | L' | Rw' | |
| | R' | Fw' | Uw2 | Fw2 | Ūw' | D | Bw' | Fw2 | U' | |
| | Lw | Rw' | R | L | B' | Dw' | | | J | |
| | | | | | | | | | | |
| | F2 | Dw' | D2 | Fw' | Bw2 | Dw2 | Rw | L2 | D2 | |
| | R' | Uw' | Bw2 | L | D2 | Lw' | Uw | U2 | F | |
| | L' | U | R2 | Dw' | Bw | F | Dw | Rw2 | F' | |
| 4. | L | Dw2 | В' | Bw | Fw2 | R' | F | Fw | D2 | |
| | Fw2 | B2 | R | B2 | F2 | U | D | Lw2 | R' | |
| | Uw | L2 | В | Uw2 | Rw | L' | R' | Uw | D | |
| | Fw2 | Rw2 | Lw' | Uw2 | В | D2 | | | | |
| | D' | U' | Bw2 | _ | R2 | Dw2 | | R2 | Fw | |
| | D . | U2 | Dw2 | L' | Lw2 | R2 | Dw | D' | U | |
| | L' | F | Bw' | B' | Fw. | D2 | Rw | Dw2 | F2 | |
| 5. | R | Dw2 | Lw2 | D' | Fw' | R | F' | U | Dw | |
| | В | D . | R' | Lw' | L' | F | Lw2 | U' | F2 | |
| | Lw | F' | Fw' | В | L | Dw2 | Rw2 | Uw' | Bw | |
| | R2 | Rw' | U | Bw | R2 | Uw2 | | | | |
| | | | | | | | | | | |

666 Scrambles for 2019-05-17

| 1. | Dw' R2 F' FW U Uw' Bw' R2 Bw' B Lw Bw Lw' B2 Lw' | Fw'Lw'Fw'U'Dw'LDw2UWD'Rw2L2UWR2LW'UV | Bw2 U' U Fw2 Rw2 3Fw2 3Rw Fw' F D' R 3Fw2 B2 | L2 F2 RW F' U 3Uw2 Bw' U2 Bw Bw2 U B' 3Rw | D' Bw' B2 Rw 3Rw Bw L Lw' L' F' Rw' | U2 Lw' 3Uw 3Rw2 B' D 3Fw2 3Uw Bw' 3Uw Dw F' U2 | |
|----|--|--|--|--|--|--|--|
| 2. | LW L2 LW' B' SFW SFW LW2 SFW LW' UW2 FF' SFW | F2 B RW UW2 3UW2 R' 3UW2 R2 DW2 FW2 B R2 LW2 | 3RW L' 3UW2 3RW' DW2 FW DW RW' L' U2 UW2 3UW | Bw' 3Uw' Uw' B2 Lw Uw2 Uw2 Lw2 3Rw Lw Dw' Uw' | U' F' Rw' Lw' L' Bw2 Fw2 F' Uw2 3Rw' 3Fw L' | 3FW Dw2 Fw' 3RW 3RW' U' R' D Lw2 RW UW | |
| 3. | Bw2 U2 3Fw2 L' Fw B' L' F F2 L' B Uw Dw' U | B2 R' 3RW 3UW2 LW' LW2 DW' R2 L' RW2 3RW' B F2 UW | 3FW' 3RW' DW2 R2 3UW DW RW LW 3RW UW LW2 3UW2 LW2 | 3RW 3UW B DW DW LW UW2 BW2 BW' R' B' UW' DW | L Fw2 3Fw' Uw Bw2 Bw2 L B' 3Rw2 Lw 3Rw Uw | B2 R2 BW' 3RW2 RW' 3UW' RW' DW D' 3FW' RW2 3UW BW2 | |

| | Lw' 3Dw' | 3Rw' Lw' | 3Lw L2 | 3Fw2 | Lw2 F' | 3Uw' Fw2 | Bw Bw2 |
|-----|-------------|-------------|-----------|------------|------------|-------------|-----------|
| | 3Uw | Lw | 3Lw | Dw2 | F2 | Lw | 3Bw2 |
| | Bw2 | 3Fw2 | | L2 | D' | U' | F2 |
| | Dw' | 3Bw2 | R | Bw2 | U' | Bw' | R |
| | 3Fw2 | Rw | U | Lw | 3Uw2 | U' | L' |
| | 3Uw2 | 3Bw2 | Bw2 | 3Lw | 3Fw2 | | 3Bw |
| 1. | В | Fw' | 3Dw' | Fw2 | Bw' | L2 | Fw2 |
| l l | Rw' | Fw2 | Bw | R | D | Uw' | 3Uw2 |
| | 3Dw' | U' | F2 | Fw | Uw | U2 | 3Dw' |
| | Fw' | U2 . | Fw | Rw2 | Dw2 | 3Uw' | R2 |
| | 3Fw | Bw' | Dw2 | 3Fw' | 3Dw' | Uw' | 3Rw2 |
| | D | F | | 3Bw2 | | U' | D |
| | 3Lw' | 3Bw' | Bw2 | 3Dw | LW | L | B2 |
| | Uw' | U | | | | | |
| | Dw' | 3Rw' | Fw' | U' | Fw' | Lw2 | U |
| | D2 | F2 | Fw2 | Uw | B2 | 3LW | 3Rw |
| | Uw2 | Lw2 | R' | 3Fw | 3Dw' | B' | LW |
| | B' | Rw2 | R2 | L | Dw' | LW | D' |
| | 3Bw2 | Rw' | F' | Rw' | 3Uw | R' | Lw2 |
| | 3Dw2 | 3Bw2 | 3Rw2 | Rw | 3Dw2 | | Uw2 |
| | D' | 3Dw | Bw | 3Fw | D | Lw' | F2 |
| 2. | Fw2 | 3Bw' | U' | 3Lw' | Bw2 | L2 | Bw' |
| | 3Fw' | 3Rw' | 3Bw | R2 | Bw' | 3Fw2 | F' |
| | R2 | 3Fw' | 3Bw2 | Lw2 | В | L2 | Fw |
| | 3Bw' | R | 3Rw | Bw2 | Lw | 3Fw' | Fw2 |
| | Dw | 3Fw' | D | L. | 3Bw | U | 3Bw' |
| | Dw . | U2 | Rw | R' | F | Uw' | L' |
| | 3Uw' | B2 | Bw2 | R2 | Rw | 3Rw | 3Fw2 |
| | U2 | 3Fw | | | | | |
| | | | | | | | |
| | B R' | Rw2 3Fw | U 3Uw' | 3Bw 3Dw | Rw2 Bw2 | Dw 3Uw' | Uw Fw' |
| | Bw' | 3DW | U2 | 3Fw' | Bw∠ | B2 | D' |
| | Uw' | R | RW | F | 3Rw2 | | L |
| | Rw | B' | 3Fw' | F' | 3Bw2 | | L |
| | D2 | B' | BW | R' | 3UW | 3Bw2 | _ |
| | Uw' | F | FW | 3Uw | L' | LW | 3Rw' |
| 3. | 3Fw | Ĺ | B2 | 3Fw | 3Bw' | 3Rw2 | |
| ၂၁. | 3Bw ' | 3Lw | F | Lw' | Bw | 3Bw2 | |
| | Ū | Lw' | 3Lw2 | | R2 | Fw | 3Lw |
| | R | В | D2 | 3Dw2 | Bw | 3Rw' | 3Bw |
| | Bw | 3Dw' | D' | 3Lw2 | 3Uw | R' | Dw |
| | L' | 3Uw' | Bw2 | 3Uw' | B2 | L2 | 3Lw' |
| | В' | Dw | Lw' | L2 | D2 | 3Rw | Fw' |
| | Lw | L | | | | | |
| | | | | | | | |

333bf Scrambles for 2019-05-17

| 1. | R2 U' | R2 U F2 D F2 L L' U | 2 L2 ' R | D2 | |
|----|----------------------------|------------------------------|----------------------------|---------------------------|--|
| 2. | F' F R L2 Uw' | L2 R2 U' D R' | F2 U2 R' F B2 | U2 R2 D D' RW | |
| 3. | U2 R2 F2 D2 D' | F' D2 L' F RW | U2 U B2 R2 Uw' | F B F2 B' | |

333oh Scrambles for 2019-05-17

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

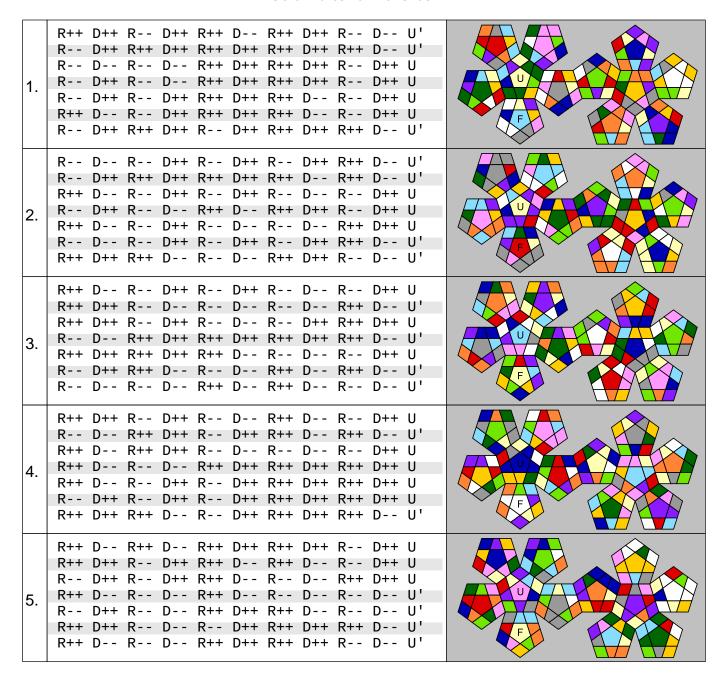
| 1. | R' L' B' L' B L' U' B U B' U u b | |
|----|----------------------------------|--|
| 2. | L'BL'R'UBURLU'Blr'b | |
| 3. | L'B'URLR'L'BUR'B'ulb' | |
| 4. | R' B L B R B L' U B L R u' r' b' | |
| 5. | U' B' L B' R L U' B U R' B u | |

| 1. | LUBLBUR' LBRU | |
|----|------------------------------|--|
| 2. | B U L' R B' L' U' L U' B' U' | |
| 3. | L R L' R B R' U' R U' L' B | |
| 4. | UBRBLBLU'R'UL' | |
| 5. | R U L R' L' U R B R' U' L | |

sq1 Scrambles for 2019-05-17

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

minx Scrambles for 2019-05-17



| 1. | UR3+ UL5- D6+ y2 D5- | DR3- U0+ L1- U5+ L5+ | DL3- R3- ALL3- R2- ALL0+ | |
|----|--|--|--------------------------------------|--|
| 2. | DR UR3- UL0+ D6+ y2 D0+ DR | DL DR2- U5- L4- U5- L3+ | DL3- R1- ALL2+ R2+ ALL4+ | |
| 3. | UR4+ UL5+ D3+ y2 D5- DL | DR6+ U5+ L5+ U1+ L0+ UL | DL4+ R1+ ALL2- R1- ALL5+ | |
| 4. | UR4- UL1- D1+ y2 D5- DR | DR5+ U3+ L1+ U2+ L1+ | DL2+ R3+ ALL3+ R4+ ALL3- | |
| 5. | UR3- UL6+ D3+ y2 D5- UR | DR1+ U1+ L5+ U5+ L1- DR | DL3- R5- ALL0+ R6+ ALL3- | |

Fewest Moves

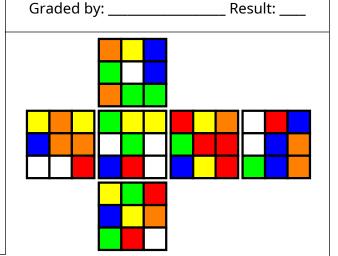
- -> You have 60 minutes to find and write a solution.
- -> Write 1 move per bar. To delete a move, clearly blacken it.
- -> Your solution must not be directly derived from any part of the scrambling algorithm.
- -> Your solution must be at most 80 moves, including rotations.
- -> Your result will be 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 U D Counter-clockwise F' U' B' D' Double F2 R2 U2 B2 L2 D2 **Rotations** Clockwise [f] [l] [d] [r] [u] [b] Counter-clockwise [f'] [r'] [u'] [b'] [l'] [d'] Double [f2] [r2] [u2] [b2] [l2] [d2]

| Scrambles for 2019-05-17 |
|--------------------------|
| 333fm |

| Competitor: | |
|---------------------------------------|----|
| WCA ID: | |
| DO NOT FILL IF YOU ARE THE COMPETITOR | ₹. |



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

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Fewest Moves

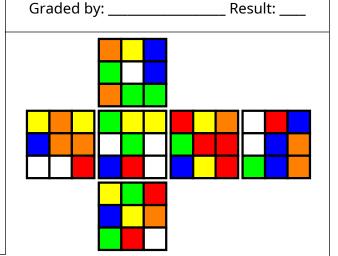
- -> You have 60 minutes to find and write a solution.
- -> Write 1 move per bar. To delete a move, clearly blacken it.
- -> Your solution must not be directly derived from any part of the scrambling algorithm.
- -> Your solution must be at most 80 moves, including rotations.
- -> Your result will be 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 U D Counter-clockwise F' U' B' D' Double F2 R2 U2 B2 L2 D2 **Rotations** Clockwise [f] [l] [d] [r] [u] [b] Counter-clockwise [f'] [r'] [u'] [b'] [l'] [d'] Double [f2] [r2] [u2] [b2] [l2] [d2]

| Scrambles for 2019-05-17 |
|--------------------------|
| 333fm |

| Competitor: | |
|---------------------------------------|----|
| WCA ID: | |
| DO NOT FILL IF YOU ARE THE COMPETITOR | ₹. |



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

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|------|------|------|------|------|
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333ft Scrambles for 2019-05-17

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

444bf Scrambles for 2019-05-17

| | L' | D' | F | L2 | R' | |
|----|---------|-----|----------|-----|-----|--|
| | _ D2 | F' | U' | L2 | D | |
| | B' | U2 | B2 | R | D2 | |
| | L' | R' | U2 | D2 | Rw2 | |
| | D | Rw2 | U' | Fw2 | D' | |
| 1. | R' | Uw2 | R | D | Fw2 | |
| | R2 | L' | F' | D2 | Fw | |
| | D' | Fw' | D2 | Rw | В' | |
| | Uw' | Rw | Fw2 | U' | L2 | |
| | z' | | | | | |
| | F2 | D2 | L | D2 | L2 | |
| | D' | U' | B2 | R' | B' | |
| | L2 | F2 | R' | B2 | F2 | |
| | R' | D2 | L2 | F2 | Uw2 | |
| 2. | B2 | Rw2 | L | U2 | B' | |
| | R' | Fw2 | - Rw2 | F | Uw2 | |
| | D' | Rw2 | | F2 | U' | |
| | Rw | Fw | Rw' | | L2 | |
| | F' | Rw2 | z' | У | | |
| | U | L2 | U' | B2 | R2 | |
| | U | R2 | D' | B2 | R | |
| | В | | U' | I I | U' | |
| | R | U | B' | F' | Rw2 | |
| | Uw2 | R' | В | D2 | Fw2 | |
| 3. | F' | Rw2 | U2 | Rw2 | F' | |
| | L' | D2 | U' | F | Uw | |
| | U2 | L | Fw' | U' | Rw2 | |
| | Fw | F' | Uw' | Fw | L2 | |
| | z' | У | | | | |

555bf Scrambles for 2019-05-17

| | | D | 11 ! | | D: /C | |
|----|------|------|------|-----|-------|--|
| | F | Rw2 | Uw' | R2 | Rw2 | |
| | L | Fw' | U' | Bw2 | U2 | |
| | Dw' | Uw' | L | Rw | Dw | |
| | Lw2 | Uw | Dw' | F2 | U2 | |
| | Dw' | D' | В' | D' | B' | |
| | U | D2 | Lw' | Uw2 | U2 | |
| 1. | Bw' | U2 | D' | L | Rw' | |
| | LW | R2 | Dw2 | U2 | L | |
| | Bw2 | R' | Uw . | Lw | Rw | |
| | Uw | Bw2 | Dw' | F | Bw . | |
| | U2 | D | Dw' | Lw | Dw' | |
| | U2 | B2 | Lw2 | F2 | В' | |
| | 3Uw' | | | | | |
| | Rw' | Dw2 | D | F' | R2 | |
| | U' | L' | U' | D' | Rw2 | |
| | D2 | R' | Lw | F2 | Rw' | |
| | F | Bw2 | Lw' | D | Fw2 | |
| | B2 | Rw | B2 | Lw' | R2 | |
| | В' | Rw2 | Bw2 | Rw | В' | |
| 2. | Dw' | Lw2 | Rw | Bw' | U' | |
| | Uw' | Lw' | В | R2 | В' | |
| | Lw2 | U | F' | В | R | |
| | B2 | Lw' | U | R' | Dw' | |
| | R2 | L2 | F | Fw' | В | |
| | D2 | Bw' | Lw' | Dw' | Bw2 | |
| | 3Rw | 3Uw2 | | | | |
| | Fw | Lw | Bw' | Dw | Lw2 | |
| | Bw | B2 | U' | Dw | L2 | |
| | Fw' | D' | Bw2 | Dw2 | L | |
| | Rw | R' | U' | L' | В | |
| | Fw2 | D2 | Rw | Lw2 | Uw | |
| | Lw | U | Fw' | U | F' | |
| 3. | Bw2 | Rw' | Lw2 | F' | R | |
| ٠. | Dw' | Rw | U | Dw' | Rw | |
| | R | L2 | F2 | Rw | Dw2 | |
| | R | Fw2 | Uw | U2 | L2 | |
| | Rw' | Bw' | Uw' | Lw2 | D2 | |
| | U2 | Rw' | R | Lw' | Uw2 | |
| | 3Rw' | 3Uw2 | | | | |
| | | | | | | |

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

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| 6. | U2 R2 | B2 B2 | L' | В' | Ū' | | R | |
|----|----------|----------|----|----|----|----|-----|--|
| 0. | U Uw | L | D2 | B2 | F' | U2 | Fw' | |