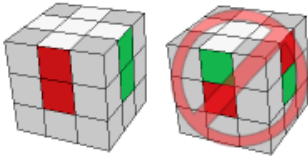


## RUBIK'S CUBE SOLUTION: PRINTABLE CHEAT SHEET

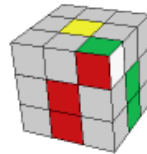
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### STEP 1: CROSS

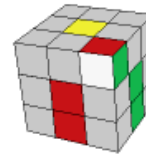


### STEP 2: BOTTOM LAYER CORNERS

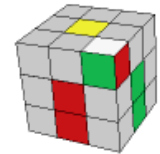
Every algorithm moves a corner from top to bottom right below without disrupting the cross.



$RUR'$



$F'U'F$



$RU2R' U'RUR'$

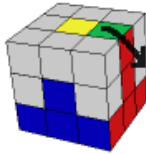
### STEP 3: MIDDLE LAYER EDGES

First algorithm inserts the edge from top to the middle in the front.

Second algorithm inserts the edge from top to the middle in the back. (arrows attempt to show this)



$R'U'R'U'R'URUR$

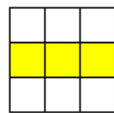


$RURURU'R'U'R'$

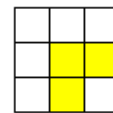
### STEP 4: EDGE ORIENTATION

If no edges are yellow on top, apply first algorithm and then the second.

Remember that *f* is just like *F*, but you turn the middle slice together with the front face too.



$F(RUR'U')F'$



$f(RUR'U')f'$   
or  $U2F(U'R'U'R)F'$

### STEP 5: CORNER ORIENTATION

Algorithm:  $RUR'URU2R'$

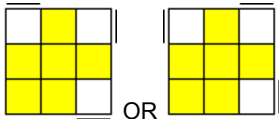
If **ONE** corner yellow: move it to the bottom left, then apply the algorithm.

if **TWO** corners are yellow: rotate top layer until a yellow sticker is on the bottom left, **facing front**.

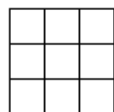
Then apply the algorithm.

if **ZERO** corners are yellow: rotate top layer until a yellow sticker is on the bottom left, **facing left**.

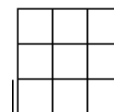
Then apply the algorithm.



OR



view from top



view from top

### STEP 6: CORNER PERMUTATION

Rotate top layer until headlights are in the back. If you don't have headlights, first apply the algorithm to get them.

$R'FR'B2RF'R'B2R2$

### STEP 7: EDGE PERMUTATION

Rotate top layer until the solved edge is in the back. If you don't have a solved edge, first apply the algorithm to get one.

$(R'U')(RU)(RU)(R'U')R'U'R2$

