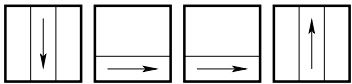
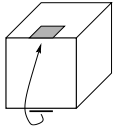
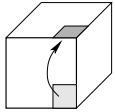
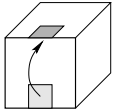
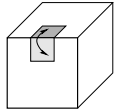


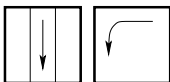
Name: \_\_\_\_\_ Quiz Score: \_\_\_\_\_ /20

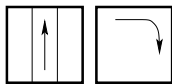

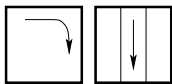
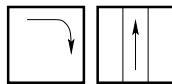
**Quiz 8: Version A**  
 USE YOUR CUBE!

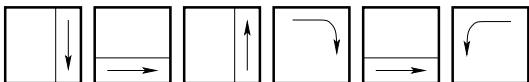
**All MOVES are viewed from the FRONT.**

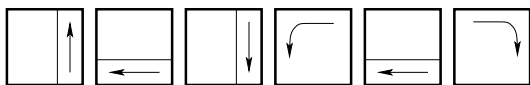
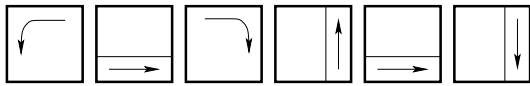
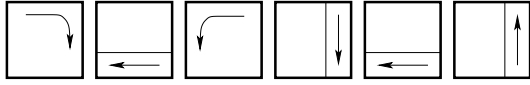
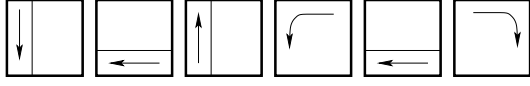
1. (5 pts) The move  does which of the following?

- (a)  (b)  (c)  (d)  (e) None of these

2. (5 pts) If  $X =$  , what is  $X'$ ?

- (a)  (b)  (c)  (d)  (e) none of these

3. (5 pts) If  $Y =$  , what is  $Y'$ ?

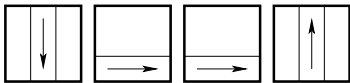
- (a)  (b)  (c)  (d)  (e) none of these

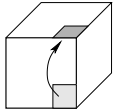
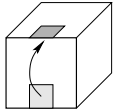
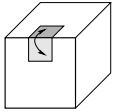
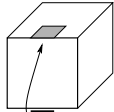
4. (5 pts) Now solve the whole UPPER LAYER of your cube and show it to me when you turn in your quiz. (Make sure I mark your score for this problem on your quiz before you leave.) Bonus points for solving the middle layer as well!

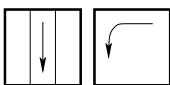
Name: \_\_\_\_\_ Quiz Score: \_\_\_\_\_ /20

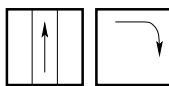
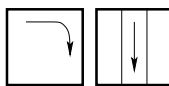
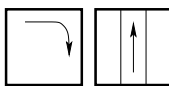

**Quiz 8: Version B**  
 USE YOUR CUBE!

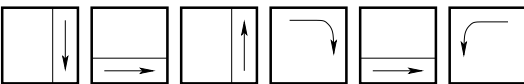
**All MOVES are viewed from the FRONT.**

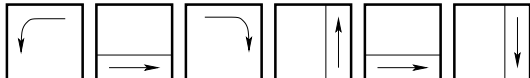
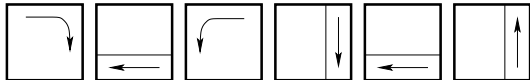
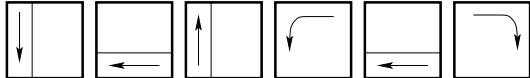
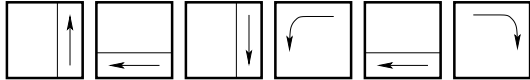
1. (5 pts) The move  does which of the following?

- (a)  (b)  (c)  (d)  (e) None of these

2. (5 pts) If  $X =$  , what is  $X'$ ?

- (a)  (b)  (c)  (d)  (e) none of these

3. (5 pts) If  $Y =$  , what is  $Y'$ ?

- (a)  (b)  (c)  (d)  (e) none of these

4. (5 pts) Now solve the whole UPPER LAYER of your cube and show it to me when you turn in your quiz. (Make sure I mark your score for this problem on your quiz before you leave.) Bonus points for solving the middle layer as well!