

**Today:** Review.

**Next class:** Midterm exam 2.

1. List the members of your group below. Underline your name.
  
2. Map the following formula to an instance of generalized geography using the textbook's method:  $\exists x \forall y \exists z [(x \vee \bar{y} \vee \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee z) \wedge (x \vee y \vee \bar{z}) \wedge (\bar{x} \vee y \vee \bar{z})]$

3. Use the polynomial time reduction from the proof of Theorem 7.32 to map the following SAT instance to an instance of CLIQUE. Depict corresponding solutions or explain why no solution exists.

$$(w \vee x \vee y \vee \bar{z}) \wedge (\bar{w} \vee \bar{x} \vee y \vee \bar{z}) \wedge (w \vee x \vee \bar{y} \vee z) \wedge (w \vee \bar{x} \vee y \vee \bar{z}) \wedge (\bar{w} \vee x \vee \bar{y} \vee z)$$

4. Reduce the SAT instance of Question 3 to a VERTEX-COVER instance using the reduction of Theorem 7.44.

5. Reduce the SAT instance of Question 3 to a SUBSET-SUM instance using the reduction of Theorem 7.56.