1. **Exercise 1-7 (Pg 28).** Proving correctness of an *algorithm* using induction. (see proof of "increment" on Pg 16)

2. **Exercise 1-15 (Pg 29).** Standard use of induction to prove a mathematical statement. (You should have seen problems like this before.)

3. **Exercise 1-25 (Pg 29).** Estimating run time. (This is a useful back-of-the envelope calculation skill that connects theory to practice! The question does not specify the base of the log in part (b). What do you think it should be?!)

4. **Exercise 1-29 (Pg 30).** Basic algorithmic/puzzle-solving thinking. (Note that you can't just time the horses in each race and then rank them based on their times. Instead, you should think of each race as a big comparison operation that takes five horses as inputs and returns their ranks. Assume that ties are not possible.)