Instructions. Write all answers clearly on one piece of paper, and put all group members' names on the top of the paper. If you talk, you must do so **very quietly**!

1. Let $N = \langle R_{90} \rangle$, a normal subgroup of D_4. Write down the details of the specific *natural* homomorphism confirming that N is the kernel of a group homomorphism with domain D_4.

2. List all of the integer partitions of 4. (The "plus" notation that the book uses rather than set notation is fine.)

3. Let p be a prime number, and list all possible Abelian groups of order p^3 up to isomorphism.

4. List all possible Abelian groups of order $2^2 3^2$ up to isomorphism.