

**Math 361**

**Quiz 7**

Your work must justify your answers. Please be neat.

1. (5 pts.) Find the order of the factor group  $(\mathbb{Z}_8 \times \mathbb{Z}_4)/\langle(2, 1)\rangle$ .

2. (5 pts.) Find the order of the element  $(2, 3) + \langle(2, 1)\rangle$  in the factor group  $(\mathbb{Z}_8 \times \mathbb{Z}_4)/\langle(2, 1)\rangle$ .