

546 Summer 2001

Exam 3

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PRINT Your Name: \_\_\_\_\_

There are 9 problems on 6 pages. The exam is worth 50 points.

1. (5 points) Define "generator". Use complete sentences.

The element  $g$  of the cyclic group  $G$  is a generator of  $G$  if every element of  $G$  is equal to  $g^m$  for some  $m \in \mathbb{Z}$ .

2. (5 points) Define "centralizer". Use complete sentences.

If  $g$  is an element of the group  $G$ , then the centralizer of  $g$  is the set of all elements of  $G$  which commute with  $g$ .