ERRATA: LINEAR GROUPS AND GROUP RINGS

J. Z. GONÇALVES AND D. S. PASSMAN

There is a small, easily corrected error in paper [GP]. We had hoped to incorporate the few needed changes into the published manuscript, but somehow this did not happen. In any case, a suitably modified version of the manuscript has been available on-line for quite some time at

www.math.wisc.edu/~passman/lingroup.pdf.

The four required changes are as follows.

1. Add this sentence immediately before [GP, Lemma 1.1].

"Finally, we define

$$d(Y,v) = d(v,Y) = d(Fv,Y) = \inf\{d(v,y) \mid y \in Y\}.''$$

2. The inequality $d(X,Z) \leq d(X,Y) + d(Y,Z)$ that appears in the paragraph immediately following the proof of [GP, Lemma 1.1] is not true in general, as was pointed out to us by Ángel del Río. Indeed, it fails, for example, when $Y = X \cup Z$ are projective subsets with $d(X,Z) \neq 0$. So, we replace this entire paragraph with

"It is clear from the above that if X and Z are projective subsets of V and if $0 \neq y \in V$, then

$$d(X,Z) = \inf\{d(x,z) \mid 0 \neq x \in X,\ 0 \neq z \in Z\}$$
$$d(X,Z) \leq d(X,y) + d(y,Z).''$$

3. The incorrect inequality shows up twice in the paper, once in the proof of [GP, Proposition 1.2] and once in the proof of [GP, Proposition 1.4]. Replace the first paragraph of the proof of [GP, Proposition 1.2] with the following argument that certainly makes more sense.

"*Proof.* It is clear that both $\overline{X}$ and $\bar{I}$ are projective subsets of V. Furthermore, if $0 \neq u \in \overline{X}$ is arbitrary, then by definition of κ and $\overline{X}$, we have

$$\kappa + d(u,K) \geq d(X,u) + d(u,K) \geq d(X,K) \geq 2\kappa,$$

so $d(u,K) \geq \kappa$. In particular, $d(\overline{X},K) \geq \kappa$ and $\overline{X}$ is disjoint from K. Since $\mathcal{P}(V)$ has diameter ≤ 2, we also have $\kappa \leq 1$."

2000 *Mathematics Subject Classification.* 16S34, 16U60, 20E06, 20H20.

The first author's reasearch was supported in part by CNPq grant 303.756/82-5 and Fapesp-Brazil, Proj. Tematico 00/07.291-0. The second author's research was supported in part by NSA grant 144-LQ65.

4. Finally, replace the first paragraph of the proof of [GP, Proposition 1.4] with the few lines given below.

"*Proof.* Since T is diagonalizable, we have $V = I \oplus K$, and it is clear that both $\overline{X}$ and $\bar{I}$ are projective subsets of V. Furthermore, if $0 \neq u \in \overline{X}$ is arbitrary, then by definition of κ and $\overline{X}$, we have

$$\kappa + d(u, K) \geq d(X, u) + d(u, K) \geq d(X, K) \geq 2\kappa,$$

so $d(u, K) \geq \kappa$. Hence $d(\overline{X}, K) \geq \kappa$."

References

[GP] J. Z. Gonçalves and D. S. Passman, *Linear groups and group rings*, J. Algebra.

Department of Mathematics, University of São Paulo, São Paulo 05389-970, Brazil
E-mail address: jzg@ime.usp.br

Department of Mathematics, University of Wisconsin, Madison, Wisconsin 53706
E-mail address: passman@math.wisc.edu