J. Austral. Math. Soc. (*Series A*) **35** (1983), 307

2-GROUPS OF ALMOST MAXIMAL CLASS: CORRIGENDUM

RODNEY JAMES

(Received 17 August 1982)

Communicated by D. E. Taylor

On page 354 of James (1975) (in the proof of Theorem 5.3(b)) there appear the following two sentences:

"When $n \geqslant 7$, replace s_1 by $s_1 s_{n-5}^{\delta}$ and s_2 by $s_2 s_{n-4}^{\delta}$. Since $(s_2 s_{n-4}^{\delta})^2 = s_2^2 s_{n-2}^{\delta}$, we may suppose $\delta = 0$."

Unfortunately, the second sentence does not follow from the first. In fact, the first sentence also forces us to replace $s_4 s_5$ by $s_4 s_5 s_{n-2}^{\delta}$ and so $s_2^2 (s_4 s_5)^{-1}$ remains unaltered. Thus the case $\delta = 1$ is omitted in the paper.

If $\delta = 1$, then (replacing s by $s s_1^{\alpha}$) we may suppose $\alpha = 0$ and so $s^4 = 1$. It is now easy to establish that we may take $s_1^2 = s_{n-3}, s_{n-2}$ or 1 giving 3 more groups.

Thus, the number of groups of order 2^n and class $n-2$ is

(i) 29 when $n = 7$

(ii) $27 + 4\,(n, 2)$ when $n > 7$.

The extra three groups were discovered using a computer version of the nilpotent quotient algorithm as described by M. F. Newman (1977).

References

Rodney James (1975), '2-groups of almost maximal class', *J. Austral. Math. Soc. Ser. A* **19**, 343–357.

M. F. Newman (1977), 'Determination of groups of prime-power order', *Group Theory*, Canberra 1975, pp. 73–84 (Proc. Miniconf. Australian National University, 1975. Lecture Notes in Mathematics 573, Springer-Verlag).

School of Mathematics
University of New South Wales
Kensington, N.S.W. 2033