Correction to answer of problem 5b of the Review Problems

The problem is to evaluate

$$\oint_C \frac{\cosh z}{z \sinh^2 z} dz$$

where C is the circle $|z - i| = 4$ with positive orientation. On the answer wheet the residue at $z = 0$ is incorrectly calculated. Since $\sinh z = z(1 + \frac{1}{6}z^2 + \ldots$,

$$\sinh^2 z = z^2(1 + \frac{1}{3}z^2 + \ldots).$$

On the answer sheet the $1 + \frac{1}{6}z^2 + \ldots)$ was not squared. Thus the residue at $z = 0$ becomes $1/2 - 1/3 = 1/6$, not $1/2 - 1/6 = 1/3$ as stated.