Question 4: Short Answer — 4 points

(a) For the correct calculated value: **1 point**

$$0.00250 \text{ mol } CH_3NH_3Cl \times \frac{67.52 \text{ g}}{1 \text{ mol}} = 0.169 \text{ g}$$

(b) For a correct description of step 1: **1 point**

Accept one of the following:

- *Use the spatula, balance, and weighing paper to measure out exactly* 0.169 g *of* $CH_3NH_3Cl(s)$.
- *Use the balance to weigh out the mass of solid in part (a).*

For a correct description of step 4: **1 point**

Rinse the buret with a small amount of $0.100\ M\ CH_3NH_2(aq)$*, drain, and refill with* $0.100\ M\ CH_3NH_2(aq)$.

Total for part (b) 2 points

(c) For the correct answer and a valid justification: **1 point**

Equal to. The ratio of weak acid to conjugate base is still 1:1.

Total for question 4 4 points