Show all work for full credit, and use correct notation.

1. Given $12.3 \overline{p}_{32.5} = .995$ determine $12.3 \overline{q}_{32.5}$.

2. Given $8 \overline{p}_{30} = .855$ and $4 \overline{p}_{34} = .9$, determine $4 \overline{p}_{30}$.

3. Given $10 \overline{q}_{50} = .1$ and $15 \overline{p}_{50} = .82$, determine $10 \overline{q}_{50}$.

4. Given $\overline{t}p_x = (.9)^t$, determine $\overline{e}_x$.

5. Given $e_{60} = 24.5$ and $e_{61} = 24$, determine $q_{60}$. 