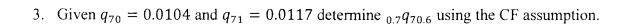
Each problem is worth 10 points. Show all work for full credit, and use correct notation. Simplify answers completely. See other side for additional problems.

- 1. Using ILT mortality, determine each of the following:
 - (a) $_{0.5}q_{70}$ using the UDD assumption

(b) $_{1.8}p_{72.2}$ using the CF assumption

- 2. Given $l_{90} = 1000$, and $p_{90} = .8$, and $_2p_{90} = .45$ determine each of the following:
 - (a) $l_{90.45}$ using the UDD assumption

(b) $l_{91.5}$ using the CF assumption



4. Given
$$q_{80+k} = .1 + .05k$$
, for $k = 0$ and 1, determine $_{1.3|0.7}q_{80}$ using the CF assumption.

5. Given
$$_{k|}q_{90}=.1(k+1)$$
, for $k=0$ and 1, determine $_{0.2|0.5}q_{90.8}$ using the UDD assumption