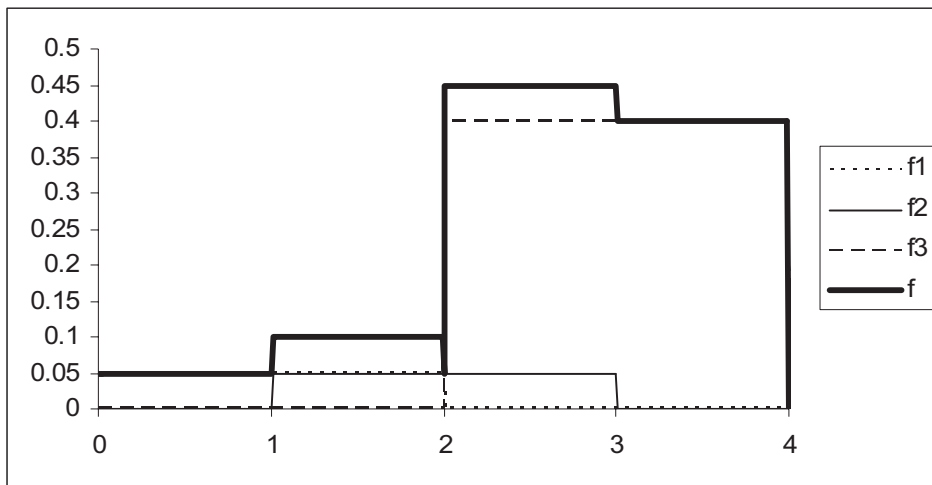


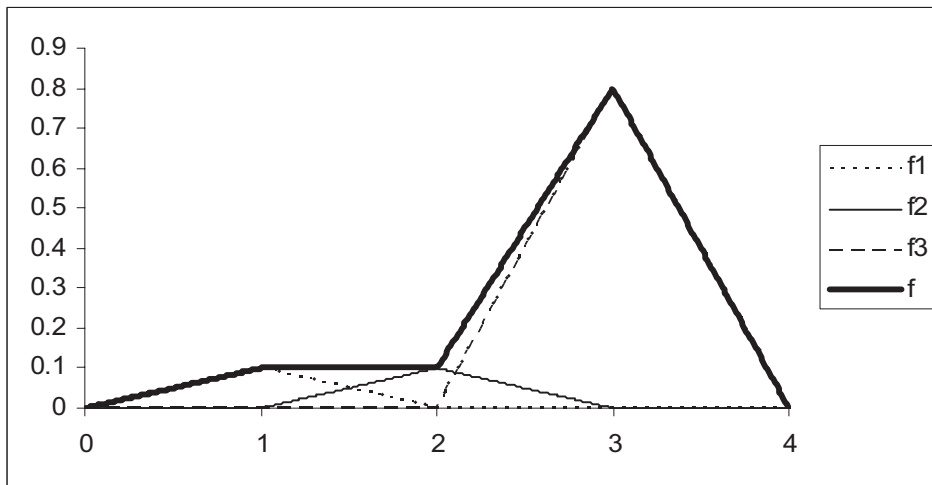
Question #221

Key: B

It may be easiest to show this by graphing the density functions. For the first function the three components are each constant. One is of height $1/20$ from 0 to 2 (representing the empirical probability of $1/10$ at 1, one is height $1/20$ from 1 to 3 and one is height $8/20$ from 2 to 4. The following figure shows each of them and their sum, the kernel density estimator.



The triangular one is similar. For the triangle from 0 to 2, the area must be $1/10$. With a base of 2, the height is $1/10$. the same holds for the second triangle. The third has height $8/10$. When added they look as follows;



The question asks about cumulative probabilities. From 0 to 1 the first is linear and the second is quadratic, but by $x = 1$ both have accumulated 0.05 of probability. Because the cumulative distribution functions are the same at 1 and the density functions are identical from 1 to 2, the distribution functions must be identical from 1 to 2.