

**249.** You are given:

- (i) The cumulative distribution for the annual number of losses for a policyholder is:

$n$	$F_N(n)$
0	0.125
1	0.312
2	0.500
3	0.656
4	0.773
5	0.855
$\vdots$	$\vdots$

- (ii) The loss amounts follow the Weibull distribution with  $\theta = 200$  and  $\tau = 2$ .
- (iii) There is a deductible of 150 for each claim subject to an annual maximum out-of-pocket of 500 per policy.

The inversion method is used to simulate the number of losses and loss amounts for a policyholder.

- (a) For the number of losses use the random number 0.7654.
- (b) For loss amounts use the random numbers:

0.2738 0.5152 0.7537 0.6481 0.3153

Use the random numbers in order and only as needed.

Based on the simulation, calculate the insurer's aggregate payments for this policyholder.

- (A) 106.93
- (B) 161.32
- (C) 224.44
- (D) 347.53
- (E) 520.05