

### Question #123

Key: C

$$E(X \wedge x) = \frac{\theta}{\alpha - 1} \left[ 1 - \left( \frac{\theta}{x + \theta} \right)^{\alpha - 1} \right] = \frac{2000x}{x + 2000}$$

X	$E(X \wedge x)$
$\infty$	2000
250	222
2250	1059
5100	1437

$$0.75(E(X \wedge 2250) - E(X \wedge 250)) + 0.95(E(X) - E(X \wedge 5100))$$

$$0.75(1059 - 222) + 0.95(2000 - 1437) = 1162.6$$

The 5100 breakpoint was determined by when the insured's share reaches 3600:

$$3600 = 250 + 0.25(2250 - 250) + (5100 - 2250)$$