

Question #286**Key: C**

Insurance pays 80% of the portion of annual claim between 6,000 and 1,000, and 90% of the portion of annual claims over 14,000.

The 14,000 breakpoint is where Michael reaches 10,000 that he has paid:

1000 = deductible

1000 = 20% of costs between 1000 and 6000

8000 = 100% of costs between 14,000 and 6,000

$$E[X \wedge x] = \theta \left(1 - \frac{\theta}{x + \theta} \right) = \frac{5000x}{x + 5000}$$

x	$E[X \wedge x]$
1000	833.33
6000	2727.27
14000	3684.21
∞	5000

$$0.80[E[X \wedge 6000] - E[X \wedge 1000]] + 0.90[E[X] - E[X \wedge 14000]]$$

$$\Rightarrow 0.80[2727.27 - 833.33] + 0.90[5000 - 3684.21]$$

$$= 1515.15 + 1184.21 = 2699.36$$

$$\Rightarrow 2700$$