

150. Key: B

The 95<sup>th</sup> percentile is in the range when an accident occurs. It is the 75<sup>th</sup> percentile of the payout, given that an accident occurs, because  $(0.95 - 0.80)/(1 - 0.80) = 0.75$ . Letting  $x$  be the 75<sup>th</sup> percentile of the given exponential distribution,  $F(x) = 1 - e^{-\frac{x}{3000}} = 0.75$ , so  $x = 4159$ . Subtracting the deductible of 500 gives 3659 as the (unconditional) 95<sup>th</sup> percentile of the insurance company payout.