

SOA Exam P 010 (General Probability)

Let $I = 1$ car

$M =$ more cars

$S =$ sports car

$N =$ non-sports car

	S	N	Total
I	$0.2 - 0.096$ $= 0.104$	$0.8 - 0.544$ $? = 0.256$.36
M	0.15×0.64 $= 0.096$	$0.64 - 0.096$ $= 0.544$.64
Total	.2	.8	1

$$\Pr(S|M) = 0.15$$

$$\begin{aligned}\Pr(S \cap M) &= \Pr(S|M) \times \Pr(M) \\ &= 0.15 \times 0.64 \\ &= 0.096\end{aligned}$$

Both variables have only two states, so
 $\Pr(S \cap M) + \Pr(N \cap M) = \Pr(M)$

ANS: C