23. Solution: D

Let

C = Event of a collision

T = Event of a teen driver

Y = Event of a young adult driver

M = Event of a midlife driver

S = Event of a senior driver

Then using Bayes' Theorem, we see that

$$P[Y \mid C] = \frac{P[C \mid Y]P[Y]}{P[C \mid T]P[T] + P[C \mid Y]P[Y] + P[C \mid M]P[M] + P[C \mid S]P[S]}$$

$$= \frac{(0.08)(0.16)}{(0.15)(0.08) + (0.08)(0.16) + (0.04)(0.45) + (0.05)(0.31)} = 0.22 .$$