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$P(M) = P(M|F) \cdot P(F) + P(M|R) \cdot P(R)$

$P(M) = (0.95)(0.10) + (0.08)(0.90)$

$P(M) = 0.095 + 0.072$

$P(M) = 0.167$ or 17%

Note: $P(M) = P(B)$

$P(F) = P(A)$

$P(R) = P(C)$

$$P(A|B) = \frac{P(B|A) \cdot P(A)}{P(B)}$$

$$= \frac{(0.95)(0.10)}{0.167}$$

$$= \frac{0.095}{0.167}$$

$P(A|B) = 0.568$ or 57%