Question #15322 Given that event A and B are independent and that $P(A) = 1/8$ and $P(A \cup B) = 1/3$, find P(B)

Solution. Let $P(B) = x$, then $P(A \cap B)1/8x$, so using inclusion-exclusion formula one can get $1/3 = 1/8 + x - 1/8x$, thus $x = 5/21$.

Answer. 5/21.

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