

## Problem Wk.10.3.4: Equivalence

Which of the following expressions are equivalent to  $P(A=0 \mid B=0)$ ?

These questions cannot be checked without giving them away. Think about them and do your best. Don't be frustrated if you get some wrong; just try to convince yourself of the reason.

1.  $P(A=0) / P(B=0)$
2.  $P(B=0 \mid A=0)$
3.  $P(B=0 \mid A=0) P(A=0)$
4.  $P(B=0 \mid A=0)P(A=0) / P(B=0)$
5.  $P(B=0 \mid A=0)P(A=0) / (P(A=0, B=0) + P(A=1, B=0))$
6.  $P(B=0 \mid A=0)P(A=0) / (P(B=0 \mid A=0)P(A=0) + P(B=0 \mid A=1)P(A=1))$
7.  $P(A=0, B=0) / P(A=0)$
8.  $P(A=0, B=0) / P(B=0)$
9.  $P(A=0, B=0) / (P(B=0, A=1) + P(B=0, A=0))$

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