Problem Wk.10.3.3: Truth

Which of the following statements are always true? (Assume A and B are binary variables; check the box if the statement is true, leave unchecked if false).

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. $P(A=1) >= P(A=1,B=1)$ ☐
2. $P(A=1) <= P(A=1,B=1)$ ☐
3. $P(A=1) = P(A=1,B=1) + P(A=1,B=0)$ ☐
4. $P(A=1,B=1) = P(A=1)P(B=1)$ ☐
5. $P(A=1|B=1) >= P(A=1)$ ☐
6. $P(A=1|B=1) >= P(A=1,B=1)$ ☐

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