Please, don't write on the exam paper.

Multiple choice quiz:

1) Which of the following is a characteristic of a binomial probability experiment?

a: Each trial has at least two possible outcomes.
b: P(success) = P(failure)
c: The result of one trial does not affect the probability of success on any other trial.

2) A student randomly guesses at 5 multiple-choice questions. Each question has four possible choices.
What is the probability that the student gets at least three correct answers ?

   a: ≈ 0.0879 **b:** ≈ 0.2637 **c:** ≈ 0.1035

3) The sum $3+10+17+24+...+2005+2012$ is equal to :

   a: 289 153   **b:** 290 160   **c:** 292 175

4) There are 10 balls in a box. 7 balls are black and 3 are red.
   Two balls are drawn successively at random, and the first ball is not replaced before the second is drawn.
   What is the probability that the two balls drawn don't have the same colour ?

   a: $\dfrac{7}{15}$ **b:** $\dfrac{21}{50}$ **c:** $\dfrac{7}{30}$

5) What is the range of the function $f(x) = \dfrac{e^{2x}+1}{e^{2x}-1}$?

   a: $\left]-\infty;+\infty\right[$ **b:** $\left]-1;+1\right[$ **c:** $\left]-\infty;0\right[\cup\left]0;+\infty\right[$