AMC 8 Day 1 Odd & Even Number

1 （1分）The average of two odd numbers is always a _____ number.

    A. odd   B. even   C. prime   D. whole

2 （1分）If n and m are integers and $n^3 + m^3$ is even, which of the following is impossible? (Adapted from 2014 AMC 8 Problem, Question #13)

    A. n and m are even   B. n and m are odd

    C. $n + m$ is even   D. $n + m$ is odd

    E. none of these are impossible

3 （1分）Suppose m and n are positive even integers. Which of the following must be an odd integer? (Adapted from 2005 AMC 8 Problem, Question #8)

    A. $m + 2n$ B. $3m - n$ C. $3m^2 + 3n^2$ D. $(nm + 3)^2$ E. $3mn$

4 （1分）If n is an integer, then ___?___ must be even.

    A. $n + 1$ B. $n + 2$ C. $2 \times n + 1$ D. $2 \times n + 2$

    E. $3 \times n$

5 （1分）Let o be an even whole number and let n be any whole number. Which of the following statements about the whole number $(1 + o \times n)^2$ is always true? (Adapeted from 1986 AJHSME Problem, Question #17)

    A. it is always odd   B. it is always even

    C. it is even only if n is even   D. it is odd only if n is odd

    E. it is odd only if n is even