7

BIRTHDAYS

2006B   25. **(B)** The 4-digit number on the license plate has the form *aabb* or *abab* or *baab*, where a and b are distinct integers from 0 to 9. Because Mr. Jones has a child of age 9, the number on the license plate is divisible by 9. Hence the sum of the digits, $2(a+b)$, is also divisible by 9. Because of the restriction on the digits a and b, this implies that $a + b = 9$. Moreover, since Mr. Jones must have either a 4-year-old or an 8-year-old, the license plate number is divisible by 4. These conditions narrow the possibilities for the number to 1188, 2772, 3636, 5544, 6336, 7272, and 9900. The last two digits of 9900 could not yield Mr. Jones's age, and none of the others is divisible by 5, so he does not have a 5-year-old.

Note that 5544 is divisible by each of the other eight non-zero digits.