Section 9/1

1 Question 1.3

In the grade distribution of a class, an equal proportion of students got A's and B's and the remaining students got C's. You can assume that there was at least one student in each grade category.

One student is picked at random from this class.

a) If possible, find the numerical value of the chance that the selected student got an A. If this is not possible, explain why not.

b) If possible, find the numerical value of the chance that the selected student got an A given that the student got an A or a B. If this is not possible, explain why not.

c) If possible say which one of the following chances is larger than the other. If this is not possible, explain why not.

- the chance that the student got an A
- the chance that the student got an A given that the student did not get a B

2 Question 1.4

The 17th century French writer who called himself the Chevalier de Méré was interested in probability and claimed that two events involving dice have the same chance. In this exercise you will assess his calculations.

Note that on a die, the "ace" is the face with one spot.

a) The Chevalier said that the chance of getting at least one ace in four rolls of a die is $\frac{2}{3}$. His reasoning was that the chance of getting an ace on one roll is 1/6, so the chance of getting an ace in at least one of four rolls is $4 * \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$.

Is this a good argument? If not, what is the flaw? If it is flawed, is the Chevalier's answer too large or is it too small?