EXAM P QUESTIONS OF THE WEEK

S. Broverman, 2007

Week of July 16/07

A survey of 1000 Canadian sports fans who indicated they were either hockey fans or lacrosse fans or both, had the following result.

• 800 indicated that they were hockey fans

• 600 indicated that they were lacrosse fans

Based on the sample, find the probability that a Canadian sports fan is not a hockey fan given that she/he is a lacrosse fan.

A) $\frac{1}{5}$ B) $\frac{1}{4}$ C) $\frac{1}{3}$ D) $\frac{1}{2}$ E) 1

The solution can be found below.

Week of July 16/07 - Solution

From the given information, 400 of those surveyed are both hockey and lacrosse fans, 200 are lacrosse fans and not hockey fnas, and 400 are hockey fans an not lacrosse fans. This is true because there are 1000 fans in the survey, but a compined total of $800 + 600 = 1400$ sports preferences, so that 400 must be fans of both. Of the 600 lacrosse fans, 400 are also hockey fans, so 200 are not hockey fan.s The probability that a Canadian sports fans is not a hockey fan given that she/he is a lacrosse fan is $\frac{200}{600} = \frac{1}{3}$.