Answer to Question #84159 – Math – Statistics and Probability

Let event M = ‘an individual athlete is male’;

F = ‘an individual athlete is female’;

S = ‘an individual athlete is swimmer’.

Given total number of athletes = 52,

total number of female athletes = 26,

total number of male athletes = 26,

number of female swimmer athletes = 6,

number of male swimmer athletes = 10,

hence total number of swimmer athletes = 10 + 6 = 16.

1. We need P (S / F)

$$P(S/F)=\frac{P(S\cap F)}{P(F)}=\frac{6/52}{26/52}=\frac{6}{26}=\frac{3}{13}$$

2. We need P(M/S)

$$P(M/S)=\frac{P(M\cap S)}{P(S)}=\frac{10/52}{16/52}=\frac{10}{16}=\frac{5}{8}$$