

Three ships A, B and C sail from England to India. If the ratio of their arriving safely are 2:5, 3:7 and 6:11 respectively then the probability of all the ships arriving safely is _____.

Solution:

Probability of ship A for arriving safely = $P(A) = \frac{2}{2+5} = \frac{2}{7}$

Similarly, for B = $P(B) = \frac{3}{3+7} = \frac{3}{10}$ and for C = $P(C) = \frac{6}{6+11} = \frac{6}{17}$

Probability of all the ships for arriving safely = $P(A) * P(B) * P(C)$

$$= \frac{2}{7} * \frac{3}{10} * \frac{6}{17} = \frac{18}{595}.$$