

1. Solution: D

Let

G = event that a viewer watched gymnastics

B = event that a viewer watched baseball

S = event that a viewer watched soccer

Then we want to find

$$\begin{aligned}\Pr\left[(G \cup B \cup S)^c\right] &= 1 - \Pr(G \cup B \cup S) \\ &= 1 - \left[\Pr(G) + \Pr(B) + \Pr(S) - \Pr(G \cap B) - \Pr(G \cap S) - \Pr(B \cap S) + \Pr(G \cap B \cap S)\right] \\ &= 1 - (0.28 + 0.29 + 0.19 - 0.14 - 0.10 - 0.12 + 0.08) = 1 - 0.48 = 0.52\end{aligned}$$