

50. **World Cup:** The World Cup soccer tournament has been held every four years since 1930, except for 1942 and 1946. The following table presents the number of goals scored by the winning team in each championship game.

Goals	Frequency
1	4
2	4
3	7
4	4
5	1
Total	20

Consider these 20 games to be a population. Let X be the number of goals scored in a game randomly chosen from this population.

- Construct the probability distribution of X .
- Find the probability that three goals were scored.
- Find the probability that fewer than four goals were scored.
- Compute the mean μ_X .
- Compute the standard deviation σ_X .

51. **Lottery:** In the New York State Numbers Lottery, you pay \$1 and pick a number from 000 to

