Standard Deviation in Real-World Contexts

Let's think about standard deviation in the real world.

13.1 Marathon Runner



The runner is running a marathon.

13.2 Calculate Standard Deviation



Movie A ratings on a 10-point scale:

9, 8, 10, 10, 7, 1, 8, 1, 2, 8

Movie B ratings on a 10-point scale:

9, 8, 8, 7, 9, 7, 7, 9, 7, 8

Restaurant A ratings on a 100-point scale:

88, 87, 89, 90, 87, 85, 88, 91, 86, 86, 88, 89

Restaurant B ratings on a 100-point scale:

90, 65, 89, 50, 94, 93, 95, 95, 75, 70, 88, 89

1. Calculate the mean and standard deviation for each data set.

2. Considering these statistics, which movie and restaurant would you choose? Explain your reasoning.

13.3 Which Route Is the Best Route?

Priya times the ride from home to school on two different routes.
Here are the times in minutes:

Route A: 21.5, 23, 24, 25, 26.5 Route B: 12, 20, 24, 28, 36

1. Before calculating the standard deviation, predict which route has a greater standard deviation. Explain your reasoning.

2. Calculate the standard deviation, and use it to decide which route you would recommend for Priya.