



A runner has recorded her times, in seconds, for six different laps of a running track.

53 57 58 60 55 56

- (a) (i) Calculate the mean of these lap times.
Show clearly all your working. 1
- (ii) Calculate the standard deviation of these lap times.
Show clearly all your working. 3
- (b) She changes her training routine hoping to improve her consistency.
After this change, she records her times for another six laps.
The mean is 55 seconds and the standard deviation 3.2 seconds.
Has the new training routine improved her consistency?
Give a reason for your answer. 1
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Answers:

- (a) (i) 56.5
(ii) 2.4
- (b) No, because her standard deviation has increased (or equivalent reason).