

Homework 1

Thursday, October 24
pp. 59-60 exercises 10-18 in FST
Appendix A, Problems 1-5 in MTE

14 Problems
Total 140 pts

FST.10

- a. miles
- b. miles
- c. miles*miles
- d. miles

FST.11

Variance cannot be negative because it is a value that is squared.

FST.12

- a. 67.24 kg^2
- b. 4.47 kg

FST.13

- a. i. Z
- ii. Y
- iii. X
- b. Group Y's have the greatest standard deviation and Group Z's have the smallest
- c. $S_x = 6.48, S_y = 8.78, S_z = 5.21$

FST.14

[395, 619]

FST.15

- a. i. 10.00 11.18
- ii. 2.236 2.247
- iii. 1.000 1.001
- b. Sample: As n gets larger, the values for standard deviation get closer.

FST.16

100, 100, 100, 100, 100
Standard Deviation = 0

FST.17

Sample: {70, 80, 140, 150} $s = 40.8$ seconds

FST.18

a. $n = 20$ $\bar{x} = 15.3$ $s = 2.5$

MTE.1

Tons
No Unit
Pounds/feet³
Y (Persons), r (1/Seconds)
Y (Tons), x (No Unit)
Dollars/Year

MTE.2

No Unit

MTE.3

$(\text{m/s})(\text{m})(\text{kg/m}^3)(1/(\text{kg}\cdot\text{m}\cdot\text{s}))$
 $= \frac{\text{m}\cdot\text{m}\cdot\text{m}\cdot\text{kg}\cdot\text{s}}{\text{m}\cdot\text{m}\cdot\text{m}\cdot\text{kg}\cdot\text{s}}$

MTE.4

0.72

MTE.5

$5.04 \cdot 10^4$