8/25/21 - Mark Shimozaki

Act #1

The following set of data includes ten observations on october snow cover for Eurasia during the past ten years (in million km^2).

6.5, 7.9, 9.2, 10.0, 10.7, 12.0, 12.5, 14.5, 14.9, 21.9

a. Find the average of the data (mean).

$$\frac{6.5 + 7.9 + 9.2 + 10.0 + 10.7 + 12.0 + 12.5 + 14.5 + 14.9 + 21.9}{10}$$

Mean = 12.01

Sample variance = 8.41077

Sample deviation = 2.90013

b. Find the sample variance and sample deviation.

$\bar{x} = 12.01$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n - 1}$$

75.6969

$(-5.51)^2 = 30.3601$ $(-0.01)^2 = .0001$ $n = 10$

$(-4.11)^2 = 16.8921$ $(.49)^2 = .2401$

$(-2.81)^2 = 7.8961$ $(2.49)^2 = 6.2001$

$(-2.01)^2 = 4.0401$ $(2.89)^2 = 8.3521$

$(-1.31)^2 = 1.7161$ $\frac{75.6969}{9} = 8.41077$

$x_i - \bar{x}$	$21.9 - 12.01 =$
$6.5 - 12.01 = -5.51$	9.89
$7.9 - 12.01 = -4.11$	
$9.2 - 12.01 = -2.81$	
$10.0 - 12.01 = -2.01$	
$10.7 - 12.01 = -1.31$	
$12.0 - 12.01 = -0.01$	
$12.5 - 12.01 = .49$	
$14.5 - 12.01 = 2.49$	
$14.9 - 12.01 = 2.89$	