MENORAH

16.1 Average Rents = \$1550, \$1700, \$900, \$850, \$1000, \$950 = X

$\cancel{\bar{x}} = \cancel{\mu}\bar{X} = \dfrac{\$1550 + \$1700 + \$900 + \$850 + \$1000 + \$950}{6}$

$= \dfrac{\$6950}{6}$

$= 1158.33$

Standard Deviation $= \sqrt{\dfrac{\Sigma(X-\cancel{\bar{x}})^2}{N-1}}$

$N = 6$

$SD = \dfrac{\sqrt{(1550-1158.33)^2 + (1700-1158.33)^2 + (900-1158.3)^2 + (850-1158.33)^2 + (1000-1158.33)^2 + (950-1158.)^2}}{\sqrt{6-1}}$

$= \dfrac{\sqrt{(391.67)^2 + (541.67)^2 + (-258.33)^2 + (-308.33)^2 + (158.33)^2 + (208.33)^2}}{\sqrt{5}}$

$= \sqrt{\dfrac{153405.3889 + 293406.38 + 66734.38 + 95067.38 + 25068.38 + 43401.38}{5}}$

$= \sqrt{135416.66} = \boxed{367.99}$

MENORAH

16.2 Height in feet for trees = 3, 21, 98, 203, 17, 9

$N = 6$

$\bar{x} = (3+21+98+203+17+9)/6$

$= 351/6 = 58.5$

$$\text{variance} = \sigma^2 = \frac{\Sigma(x-\bar{x})^2}{n-1}$$

$$= \frac{(3-58.5)^2 + (21-58.5)^2 + (98-58.5)^2 + (203-58.5)^2 + (17-58.5)^2 + (9-58.5)^2}{6-1}$$

$$= \frac{(-55.5)^2 + (-37.5)^2 + (39.5)^2 + (144.5)^2 + (-41.5)^2 + (-49.5)^2}{5}$$

$$= \frac{3080.25 + 1406.25 + 1560.25 + 20880.25 + 1722.25 + 2450.25}{5}$$

$$= \frac{31099.5}{5}$$

$\boxed{\sigma^2 (\text{variance}) = 6219.9}$