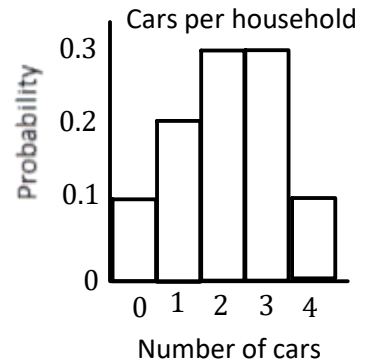


S12 - 3.10 - Cars per Household Mean St Dev Notes

x # of cars	$p(x)$	$x \times p(x)$	$(x - \mu)^2 p(x)$
0	0.1	$0 \times 0.1 = 0$	$(0 - 2.1)^2 \times 0.1 = 0.441$
1	0.2	$0 \times 0.2 = 0.2$	$(1 - 2.1)^2 \times 0.2 = 0.242$
2	0.3	$2 \times 0.3 = 0.6$	$(2 - 2.1)^2 \times 0.3 = 0.003$
3	0.3	$3 \times 0.3 = 0.9$	$(3 - 2.1)^2 \times 0.3 = 0.243$
4	0.1	$4 \times 0.1 = 0.4$	$(4 - 2.1)^2 \times 0.1 = 0.361$
$\Sigma = 1.0$		$\mu = \Sigma x_i p_i(x) = 2.1$	$\sigma^2 = \Sigma ((x - \mu)^2 p(x)) = 1.29$



$$\mu = \frac{\Sigma f_i x_i}{n} \quad \text{Mean} \quad \mu = \Sigma x_i p_i(x) = 2.1 \quad \sigma^2 = \Sigma ((x - \mu)^2 p(x)) = 1.29 \quad \text{Variance}$$

$$\mu = \Sigma (x \times \frac{f}{n}) \quad \text{Standard Deviation} \quad \sigma = \sqrt{\sigma^2} = \sqrt{1.29} = 1.13578 = 1.14 \quad \sigma = \sqrt{\sigma^2}$$

$$\sigma^2 = \Sigma (x^2 p(x)) - \mu^2$$

$$\sigma^2 = (0^2 \times 0.1 + 1^2 \times 0.2 + 2^2 \times 0.3 + 3^2 \times 0.3 + 4^2 \times 0.1) - 2.1^2$$

$$\sigma^2 = 1.29$$

STAT EDIT ENTER STAT CALC 1-Var Stats ENTER
 Enter x Data L1* List : L1* FreqList : L2*
 Enter $p(x)$ L2* Down ENTER*

$$p(x \leq 1) = p(0) + p(1) = 0.1 + 0.2 = 0.3$$

$$p(x \geq 1) = p(1) + p(2) + p(3) + p(4) = 0.2 + 0.3 + 0.3 + 0.1 = 0.9$$

$$p(x \geq 1) = 1 - p(0) = 1 - 0.1 = 0.9$$