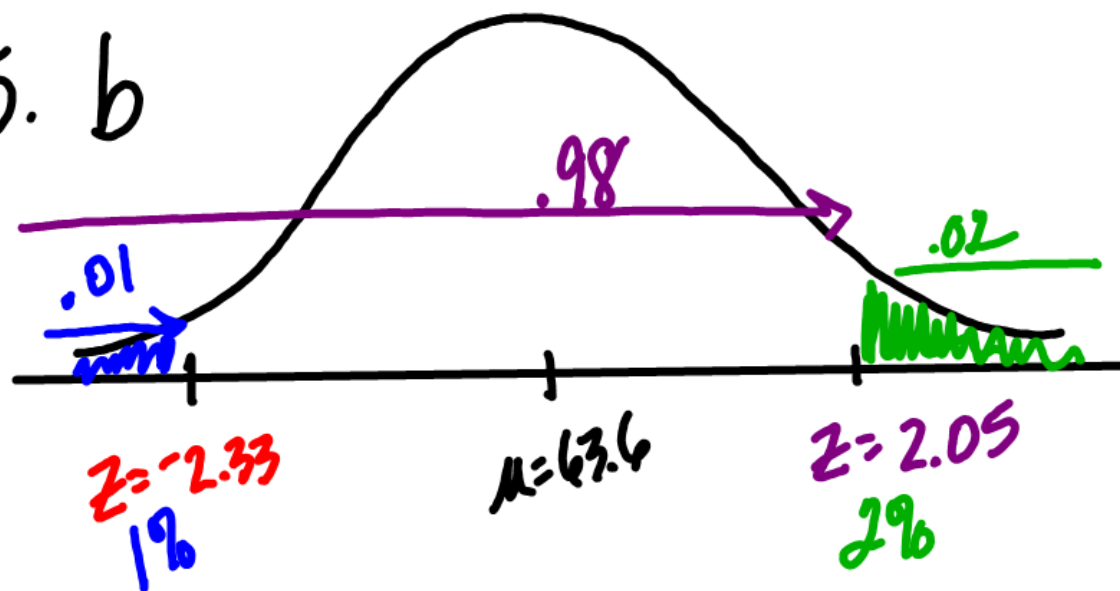


25. b



$$z = \frac{x - \mu}{\sigma}$$

$$-2.33 = \frac{x - 63.6}{2.5}$$

$$51.8_{in} = x$$

$$2.05 = \frac{x - 63.6}{2.5}$$

$$68.7_{in} = x$$

p 280 Unbiased Estimators

Mean

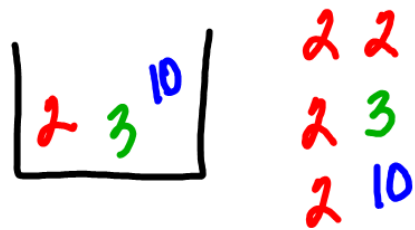
Variance

Proportion

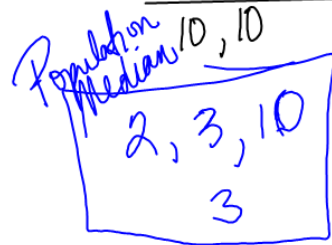
p286
9.

2, 3, 10

$n=2$



	Median	x	$P(x)$	$x(P(x))$
2, 2	2	2	$\frac{1}{9}$	$\frac{2}{9}$
2, 3	2.5 ✓	2.5	$\frac{2}{9}$	$\frac{5}{9}$
2, 10	6	3	$\frac{1}{9}$	$\frac{3}{9}$
3, 2	2.5 ✓	6	$\frac{2}{9}$	$\frac{12}{9}$
3, 3	3	6.5	$\frac{2}{9}$	$\frac{13}{9}$
3, 10	6.5	10	$\frac{1}{9}$	$\frac{10}{9}$
10, 2	6		$\frac{1}{9}$	
10, 3	6.5		$\frac{1}{9}$	



$$\frac{45}{9} = 5$$

$$\frac{45}{9} = 5$$

11.

2, 2	$\frac{2(8) - 16}{2(1)} = 0$
2, 3	$\frac{2(13) - 25}{2(1)} = \frac{1}{2}$
2, 10	$\frac{2(104) - 144}{2(1)} = 32$
3, 2	$= \frac{1}{2}$
3, 3	$= 0$
3, 10	$\frac{2(109) - 169}{2(1)} = 24.5$
10, 2	32
10, 3	24.5
10, 10	0

$$S^2 = \frac{n(\sum x^2) - (\sum x)^2}{n(n-1)}$$

Population $\sigma^2 = \frac{\sum (x - \mu)^2}{N}$

$$\mu = \frac{2+3+10}{3}$$

$$\mu = 5$$

$$\frac{(2-5)^2}{3} = \frac{9}{3}$$

$$\frac{(3-5)^2}{3} = \frac{4}{3}$$

$$\frac{(10-5)^2}{3} = \frac{25}{3}$$

Sample

$$s^2$$

$$0$$

$$\frac{1}{2}$$

$$24\frac{1}{2}$$

$$32$$

$P(s^2)$

$$\frac{3}{9}$$

$$\frac{2}{9}$$

$$\frac{3}{9}$$

$$\frac{2}{9}$$

Population

$$\frac{38}{3}$$

$s^2(P(s^2))$

$$\frac{8}{9}$$

$$\frac{1}{9}$$

$$\frac{49}{9}$$

$$\frac{64}{9}$$

$$\frac{114}{9} = \frac{38}{3}$$

Same