mas170.04.07

Tuesday, April 7, 2020 10:09 AM

Review Ch 13 – 18

Probability Ch 13-15

Box Models Ch 16-18

Exam 3 Thursday 4/9

12:30 close 3:30

1 hr exam

Email today if a problem

All Canvas

mix Mult. Choice
Essay
Fill-in-the-blank
14 parts total

I'll be on computer @ 12:30 Thurs

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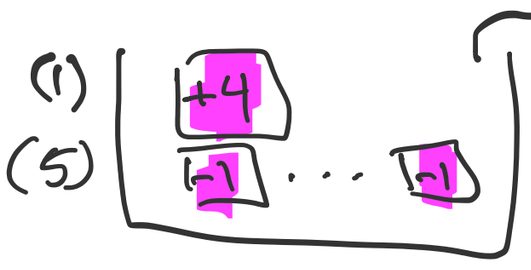
1. Practice box model problems 2, 7
2. Then others Ch 13-18

Practice set #2

(1) 600 rolls



$p(\text{win}) = \frac{1}{6}$

(2) $\text{AVE(box)} = \frac{4+5(-1)}{6} = -\frac{1}{6}$

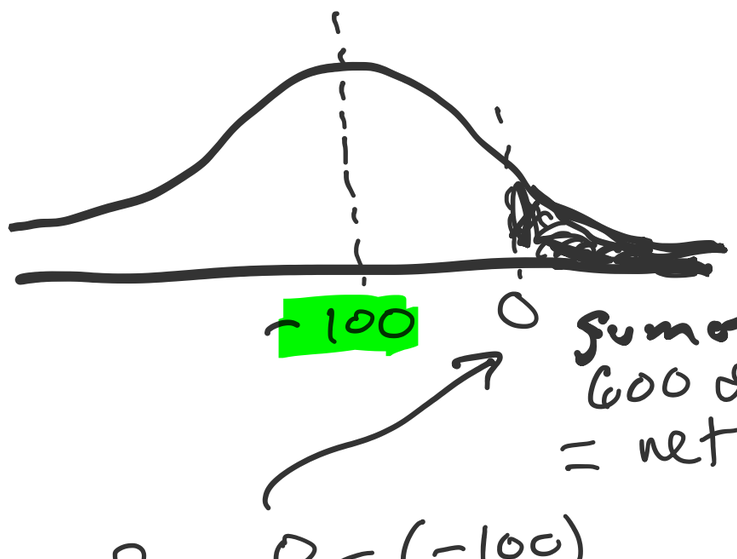
$\text{SD(box)} = (4-(-1))\sqrt{\tfrac{1}{6}\cdot\tfrac{5}{6}} = \frac{5\sqrt{5}}{6} \approx 1.86$

p 298

$\text{Expected(sum)} = \left(-\tfrac{1}{6}\right)(600) = -100$

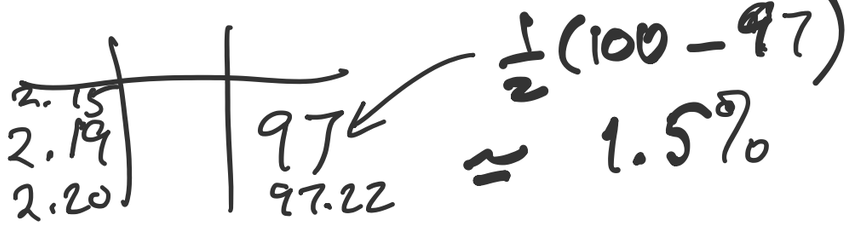
$\text{SE(sum)} = \frac{5\sqrt{5}}{6}\cdot\sqrt{600} \approx 1.86\sqrt{600} \approx 45.64$

(3)



$z = \frac{0-(-100)}{45.64} \approx 2.19$

why normal curve?
Ans: The Central Limit Theorem says the sum of draws from any box (as long as # draws is large) is ~normal.



Practice #7

(1) 

600 rolls
sum = ?

(2) (2) $\text{Ave(box)} = \frac{1+2+3+4+5+6}{6} = 3.5$

SD, rms

$\text{SD(box)} \approx 1.71$

devs: $-2.5, -1.5, -.5, +.5, +1.5, +2.5$

$\text{SD(box)} = \sqrt{(\text{Ave(devs)}^2 - (\text{Ave(devs)})^2} = \sqrt{\frac{2.5^2+1.5^2+.5^2+.5^2+1.5^2+2.5^2}{6}} \approx 1.71$

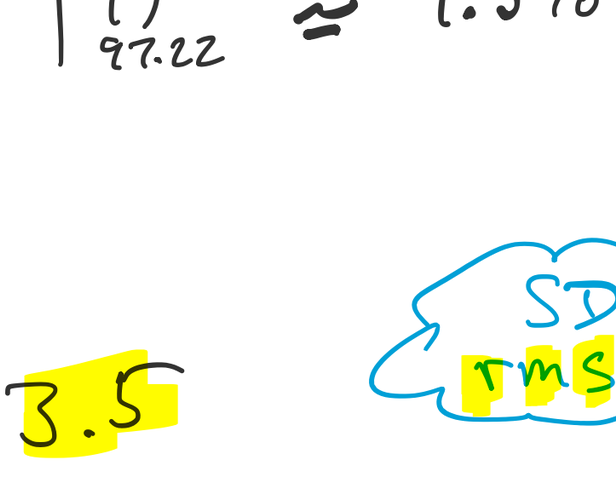
Expected sum $= 3.5 \cdot 600 = 2100$

$\text{SE(sum)} = 1.71\cdot\sqrt{600} \approx 41.83$

"give or take"

(3)

2100 ± 28 ?
?



$.67 = \frac{?}{41.83}$

$? = (.67)(41.83) \sim 28$