We found last class that the data for WW2 casualties did not fit the normal curve.

Why is this data set not considered normal?

.

If you have an average length index finger, what's the probability of someone having a longer index finger than you?

A shorter index finger?

Please write the length of your index finger on the board.

in · 2.54

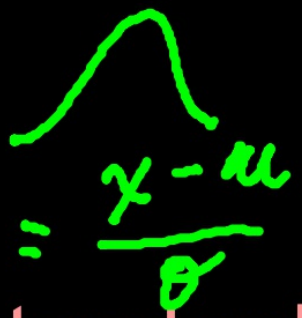
8	7	8	8.5	8	7.5
8	6.5	6.1	6.985	7.2	7.4
7.6			μ = mean ($\bar{x}$)	σ (st. dev)	
			7.49	.573	

Today's learning objective:

By the end of class, I will be able to create and manipulate normal distributions. 2nd VARS

Today's language objective:

I will verbalize the following terms with peers:

Normal 

Z-score = $\frac{x-u}{\sigma}$

Mean, standard deviation

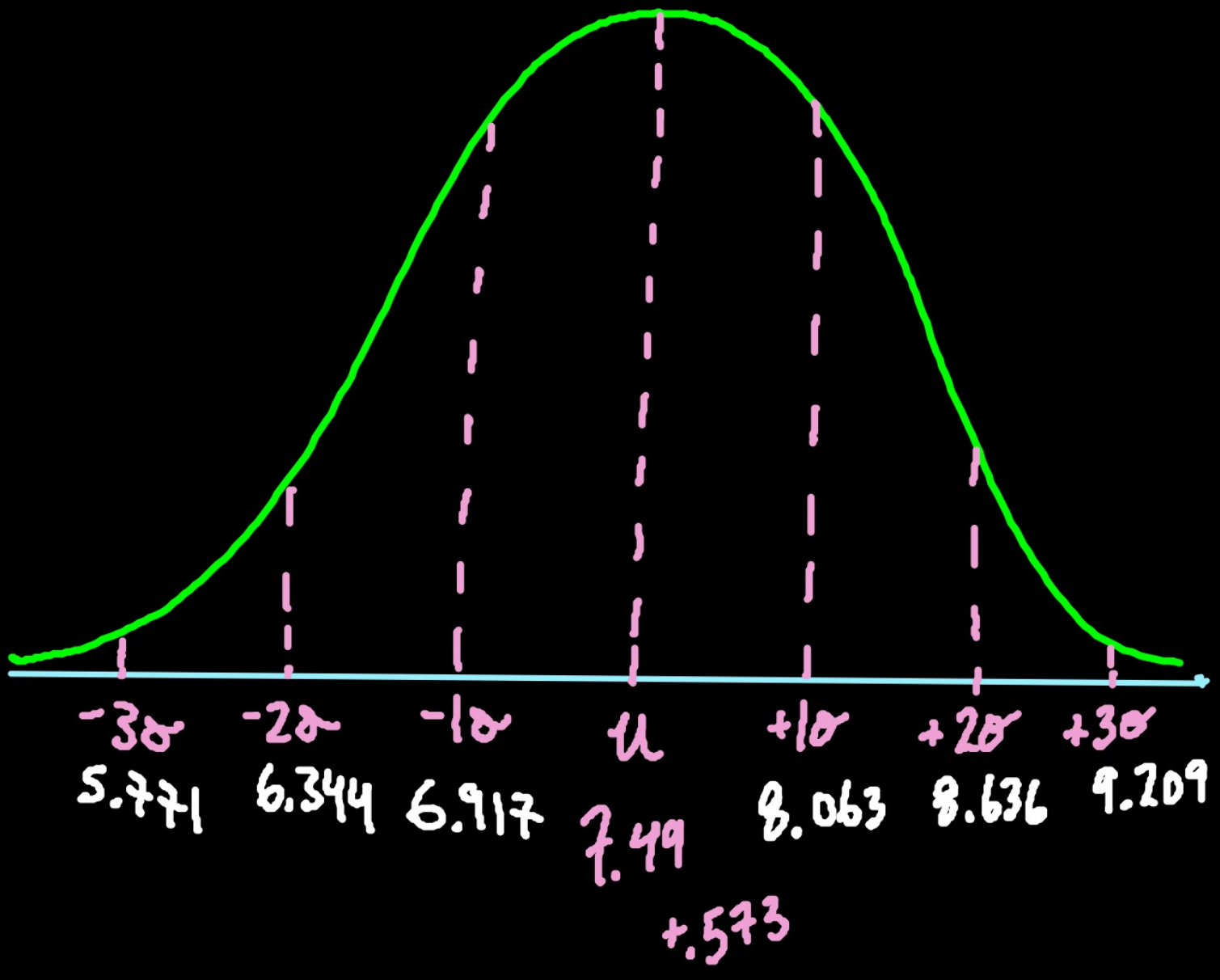
Standard μ, standardized σ

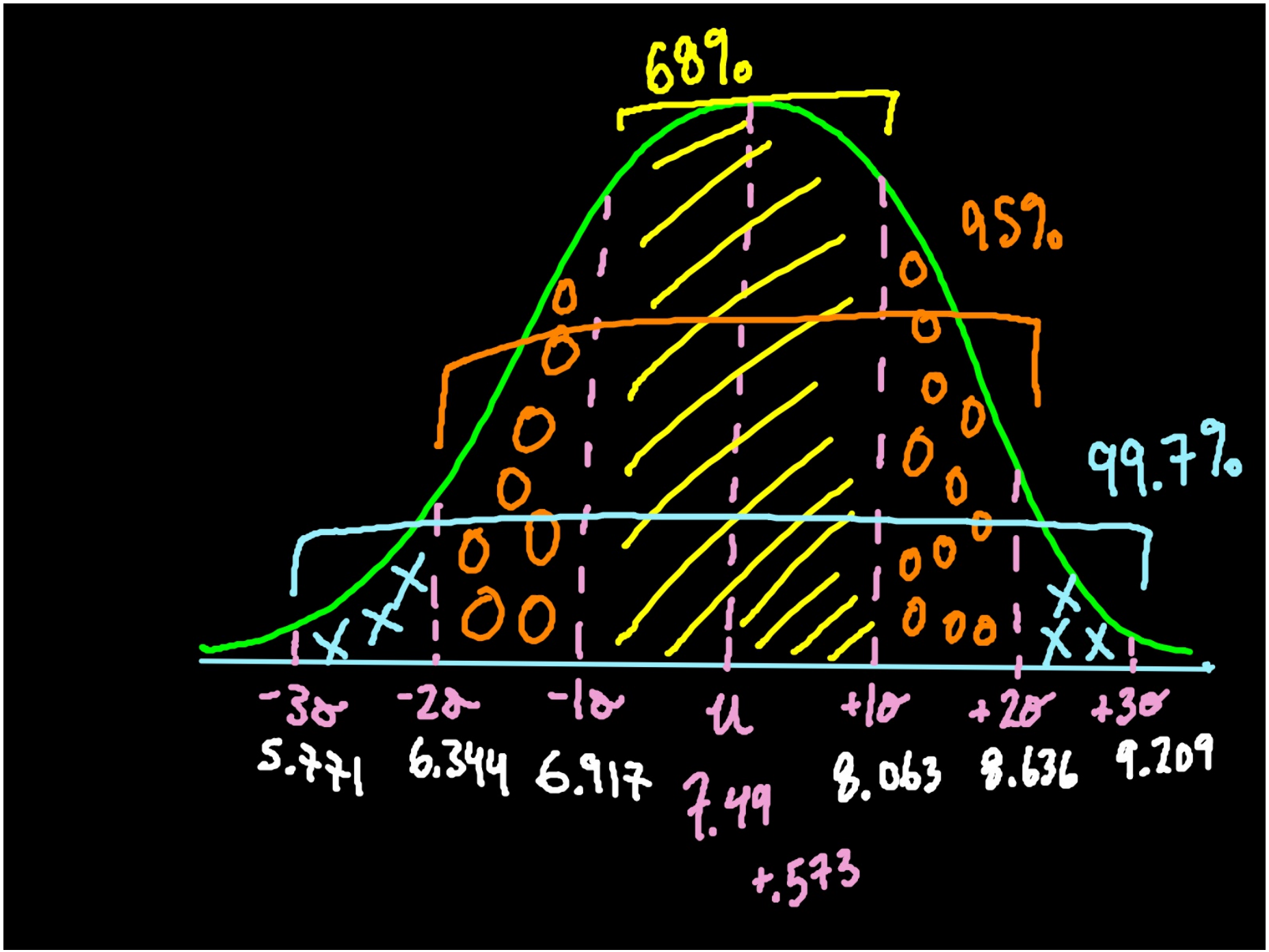
Finger stats

$\mu = 7.49$

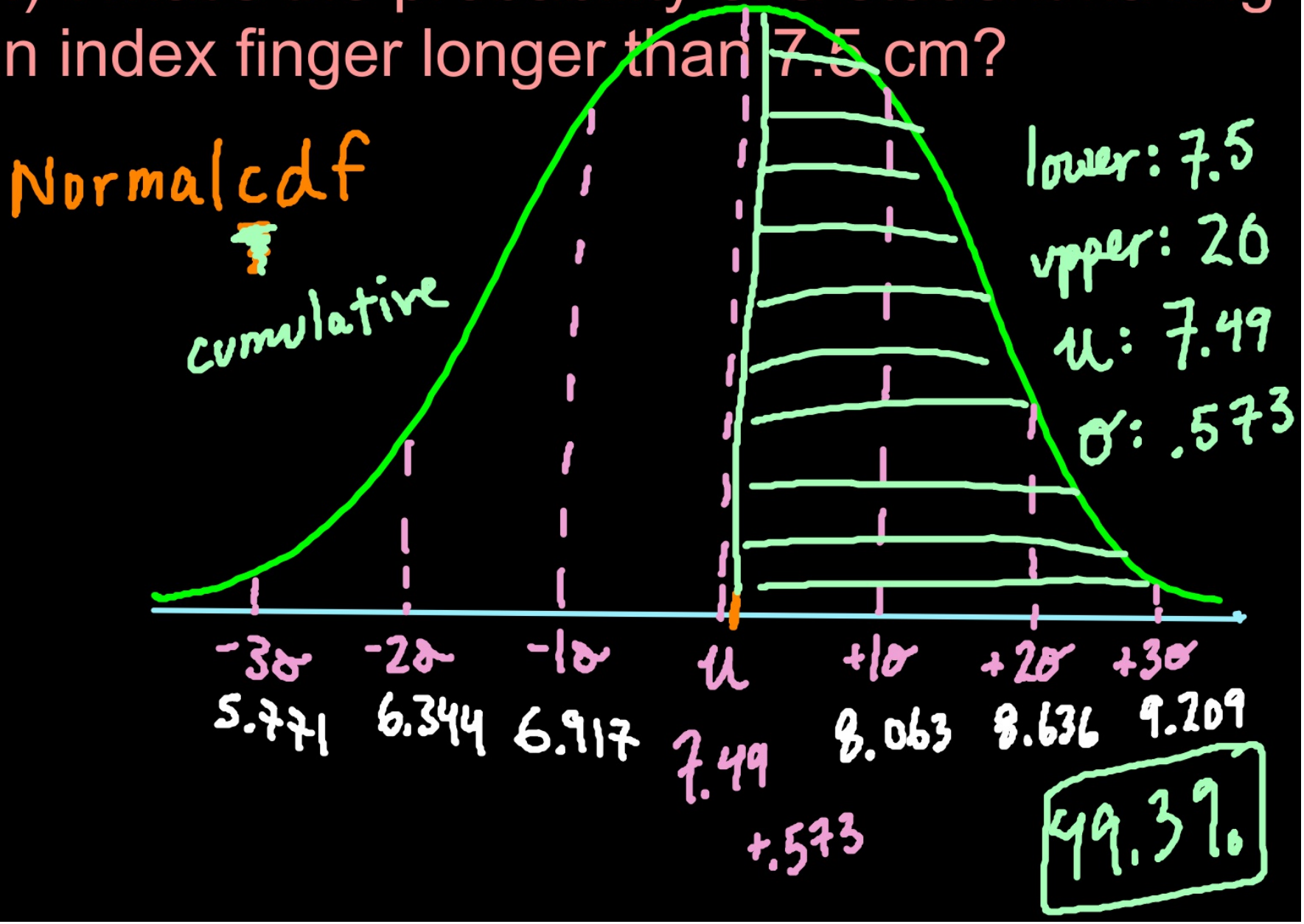
$\theta = .573$

Finger normal distribution

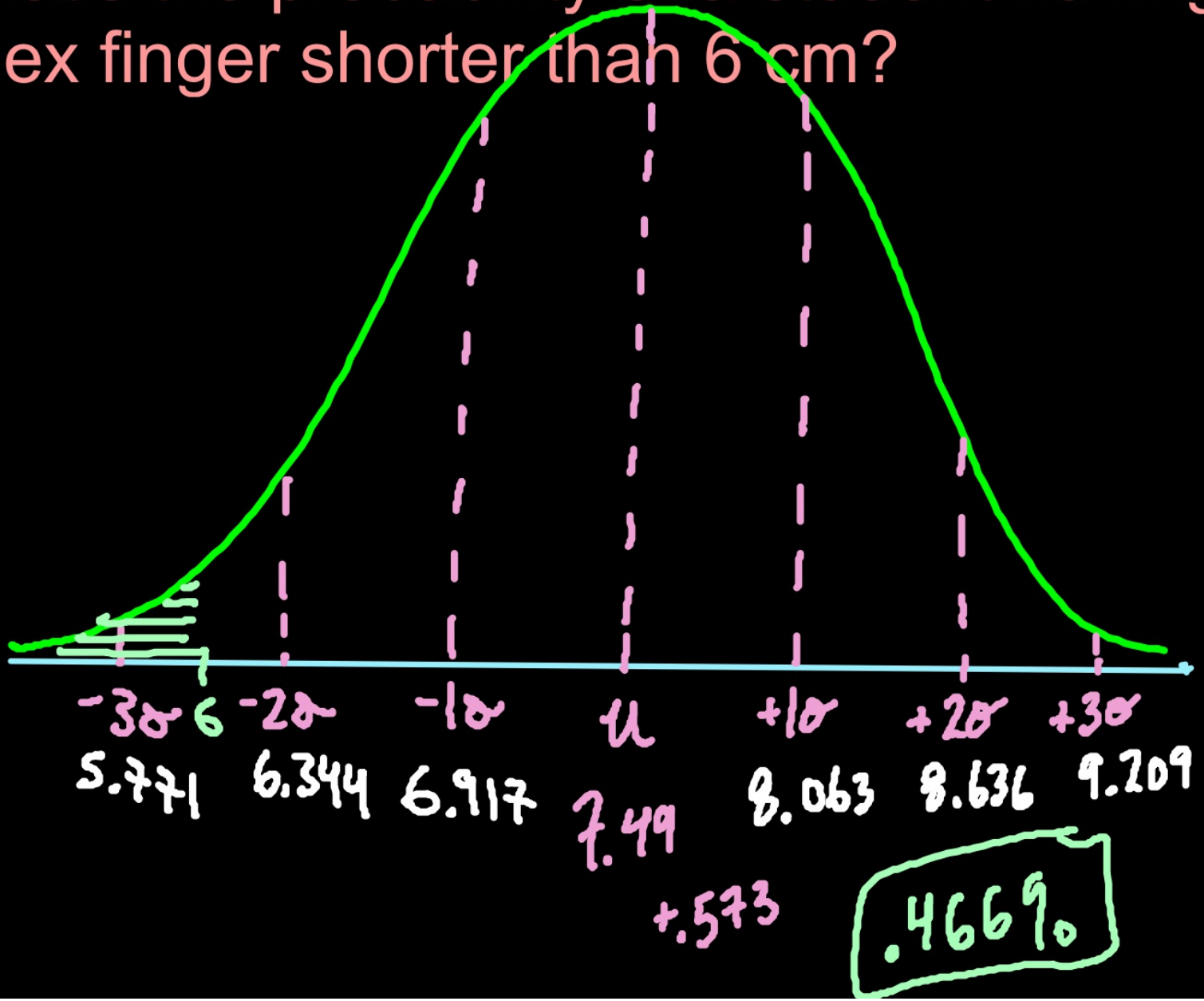



68%
95%
99.7%
-3σ
-2σ
-1σ
μ
+1σ
+2σ
+3σ
5.771
6.344
6.917
7.49
8.063
8.636
9.209
+.573

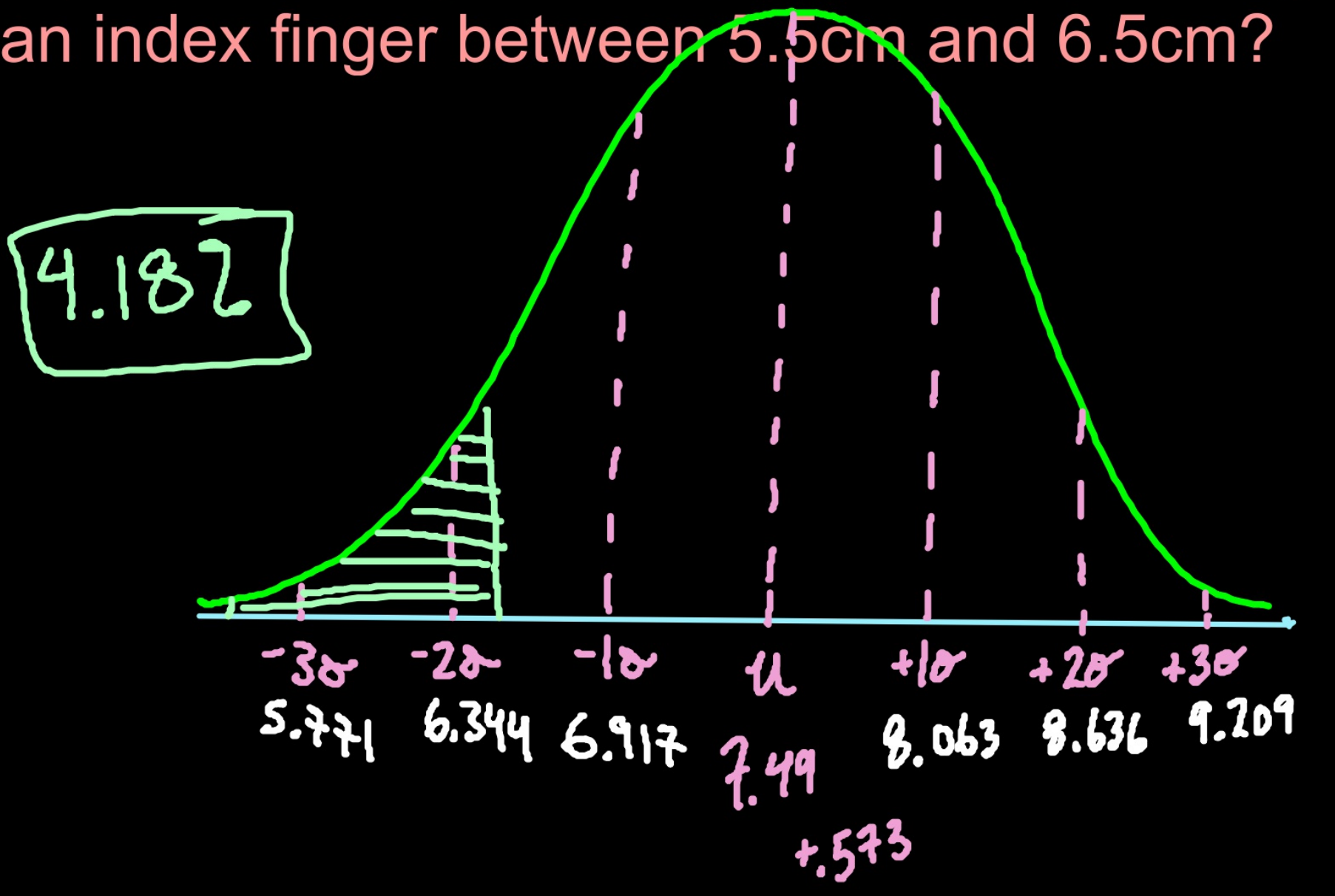
1.) What's the probability of a student having an index finger longer than 7.5 cm?

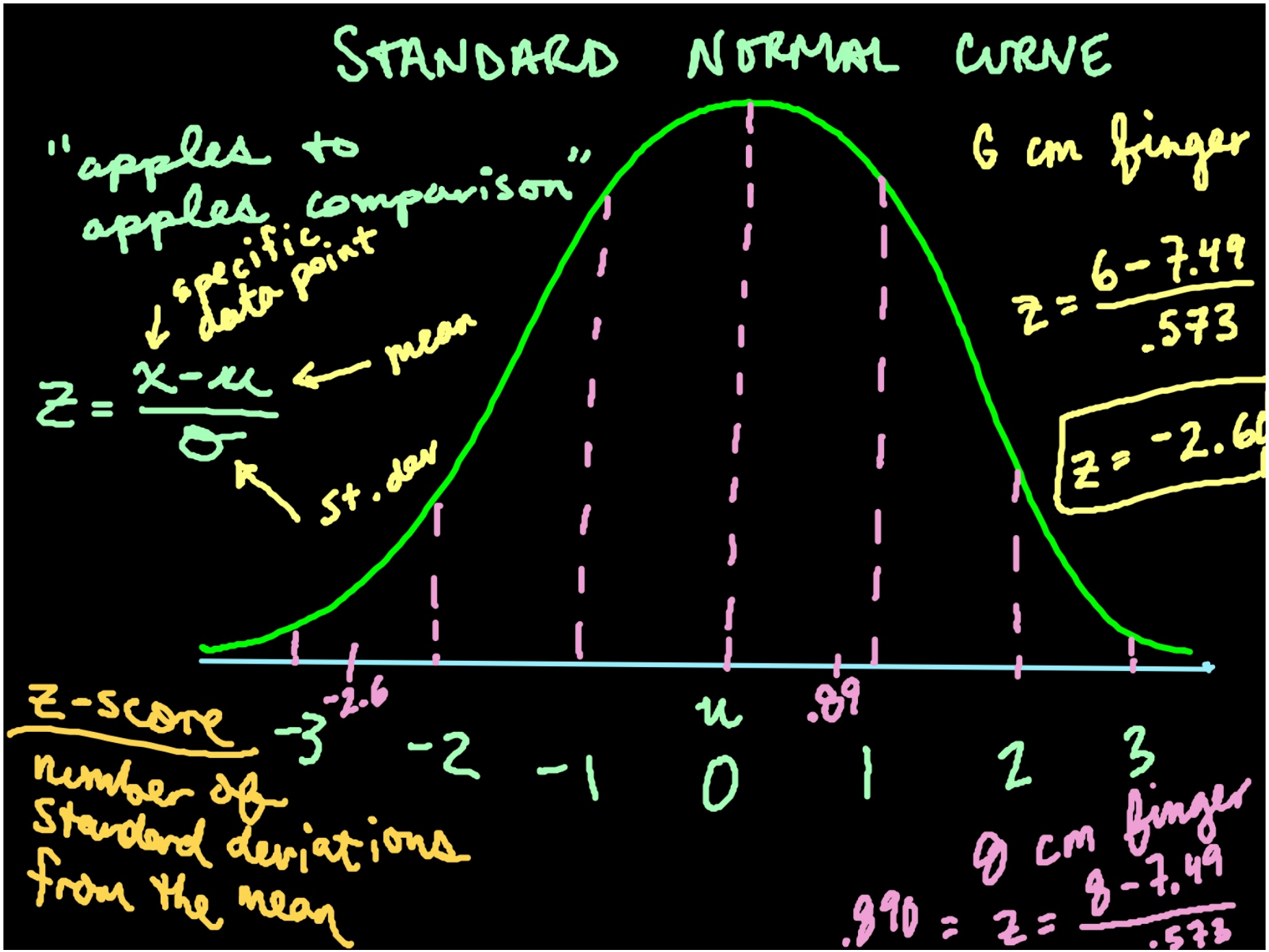


2.) What's the probability of a student having an index finger shorter than 6 cm?



3.) What's the probability of a student having an index finger between 5.5cm and 6.5cm?




STANDARD NORMAL CURVE
"apples to apples comparison"
specific data point
$Z = \frac{x - \mu}{\sigma}$
mean
St. dev
6 cm finger
$z = \frac{6 - 7.49}{.573}$
$z = -2.6$
-2.6
.89
μ
-3
-2
-1
0
1
2
3
Z-score
number of Standard deviations from the mean
9 cm finger
$.890 = z = \frac{8 - 7.49}{.573}$