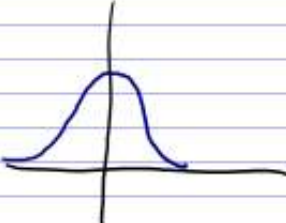


Panel 1

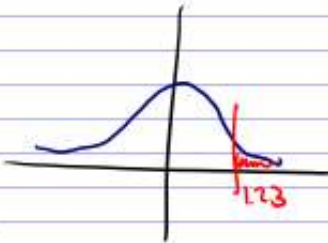
Standard Normal Distribution: $\mu=0, \sigma=1$



write this as $N(0,1)$

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$P(z > 1.23) = 0.1063$



$P(z > 0.5) = 0.3085$

$P(z > 0.679) = 0.2495$
round to 0.25

z	Second Decimal Place of z									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641
0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148
0.8	.2118	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.9885
1.3	.9868	.9851	.9834	.9817	.9801	.9785	.9769	.9753	.9738	.9723
1.4	.9708	.9693	.9678	.9663	.9648	.9634	.9619	.9605	.9591	.9577

Panel 2

$P(z < 1.2) = 0.8849$ $1.2 \rightarrow 0.1151$

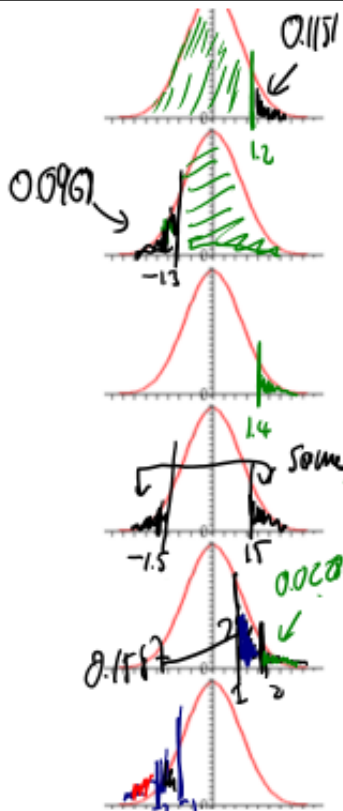
$P(z > -1.3) = 0.9049$

$P(z > 1.4) = 0.0808$
easier

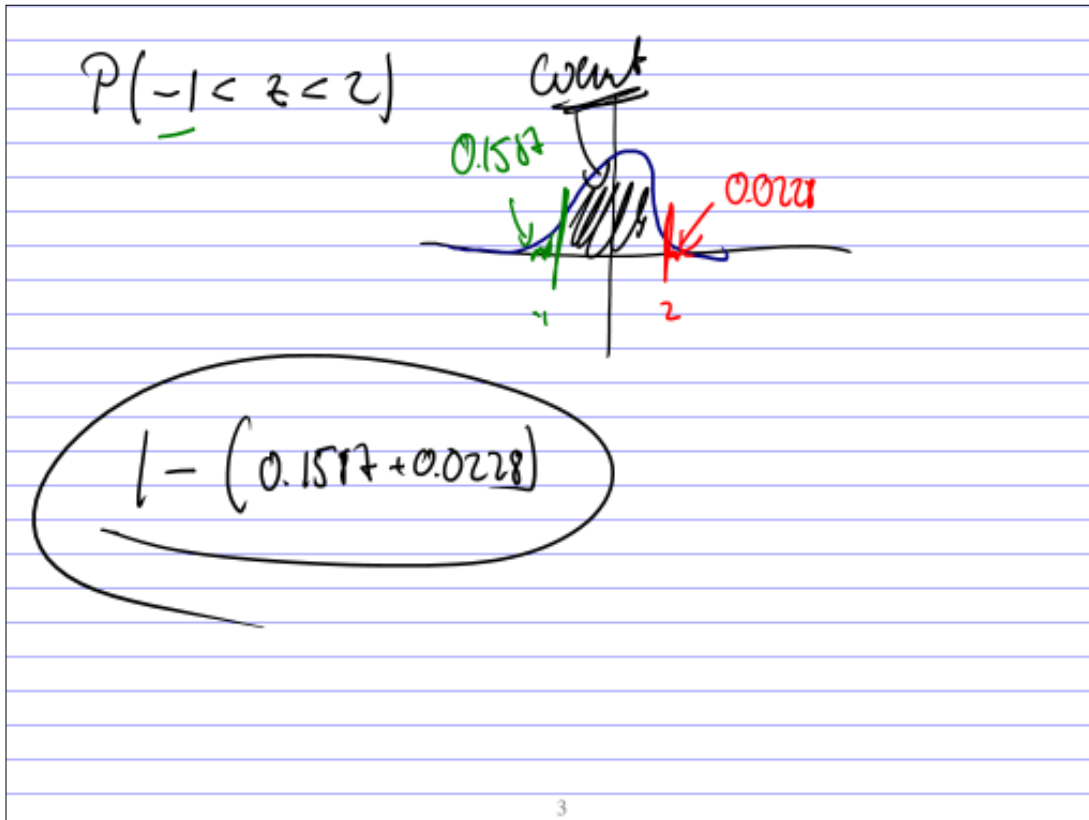
$P(z < -1.5) = 0.0668$

$P(1 < z < 2) = 0.1587 - 0.2420 = 0.0833$

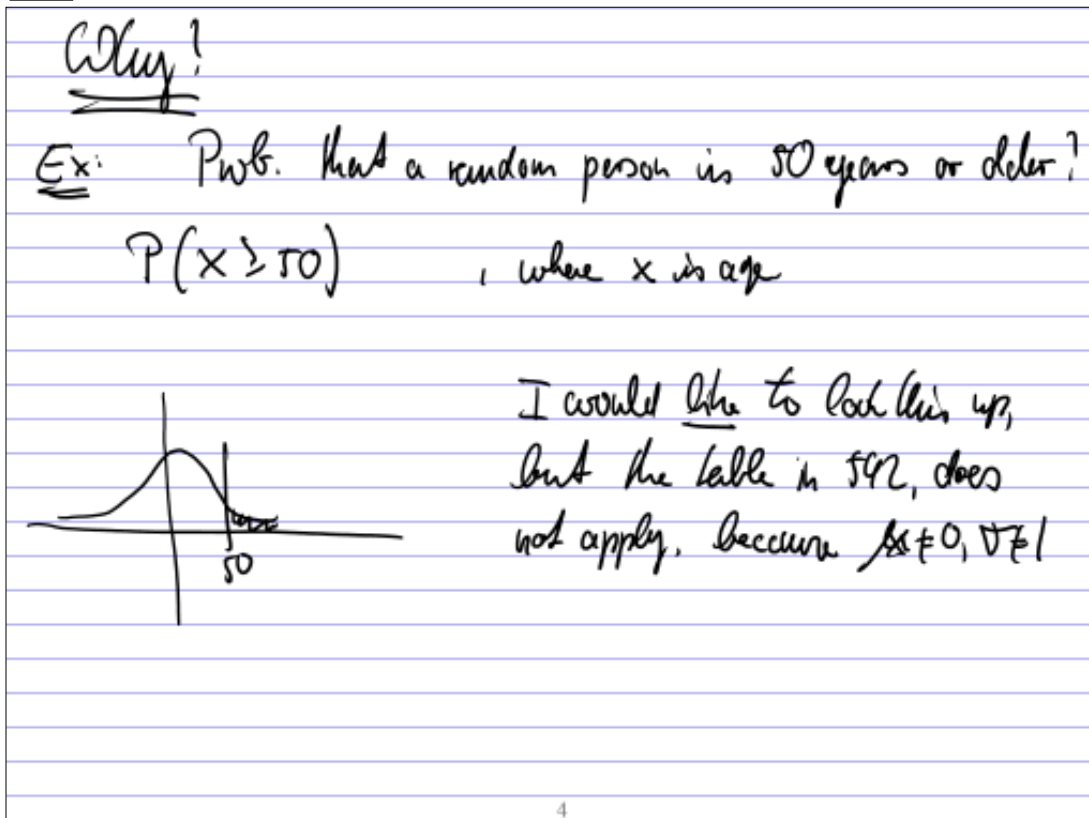
$P(-2 < z < -1) = 0.0540 - 0.0044 = 0.0496$



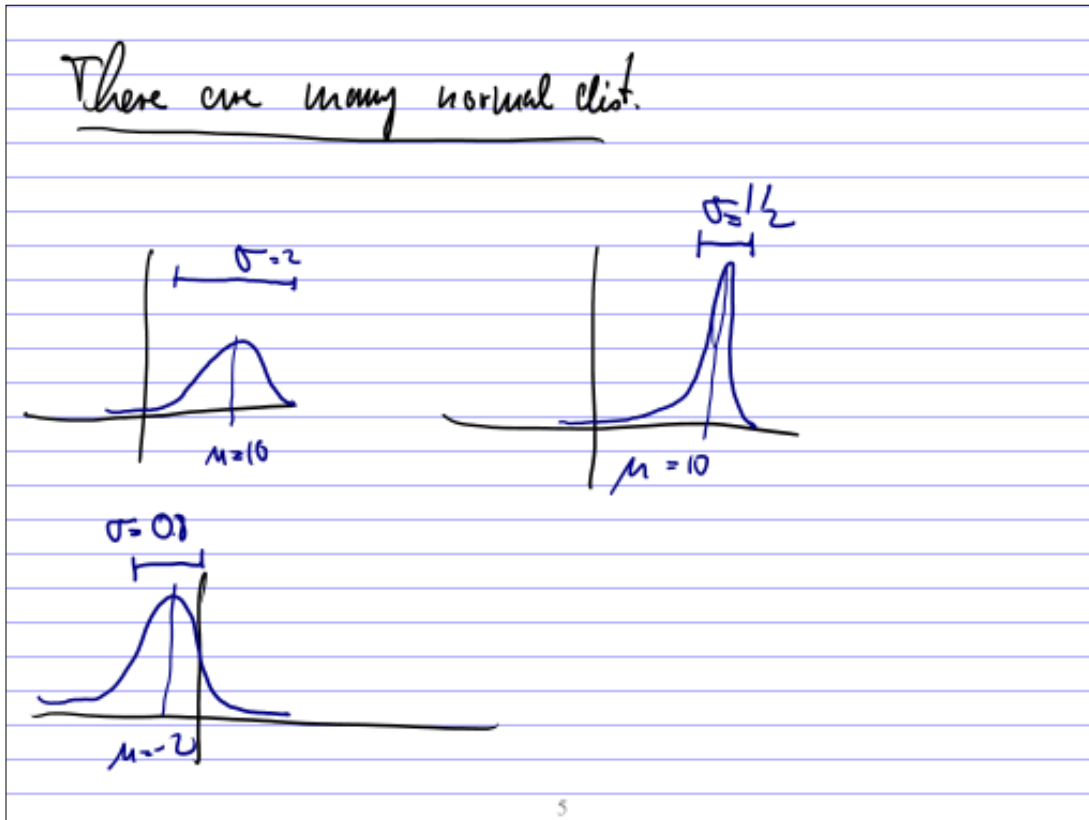
Panel 3



Panel 4



Panel 5



Panel 6

I cannot have tables for all $N(\mu, \sigma)$ ↑ mean ↓ std dev.

Theorem: if X is $N(\mu, \sigma)$, then

$$Z = \frac{X - \mu}{\sigma} \text{ is } N(0, 1)$$

Thus: $P(X > \#) = P(Z > \frac{\# - \mu}{\sigma})$

↑
table

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Panel 7

Sup X is normal with $\mu=6$, $\sigma=2$. Find

$$P(4 < X < 8) = P(-1 < Z < 1) = 1 - (0.1587 + 0.1587)$$

Find z-score of 4: $\frac{4-6}{2} = -1 = z$

Find z-score of 8: $\frac{8-6}{2} = 1 = z$

