- Continuous Random Variables
- The Normal Distribution
- Characteristics of the Normal Distribution
- The Standard Normal (Z) Distribution
- Using Murdoch Barnes Table 3
- Standardization Formula
- Important Formulae

Using the Murdoch Barnes Tables

- Knowing the Z value is very useful, because it is easy to compute $P(Z \geq Z_0)$ for some value Z_0 using statistical tables.
- $P(X \geq X_0) = P(Z \geq Z_0)$
- From our previous example we can say the following

$$P(X \geq 100) = P(Z \geq 2.5)$$

Find $P(Z \geq 0.60)$

	0.00	0.01	0.02	0.03	...	...
...	...	...	...	...	...	...
0.4	0.3446	0.3409	0.3372	0.3336	...	...
0.5	0.3085	0.3050	0.3015	0.2981	...	...
0.6	0.2743	0.2709	0.2676	0.2643	...	...
0.7	0.2420	0.2389	0.2358	0.2327	...	...
...	...	...	...	...	...	...

Find $P(Z \geq 1.28)$

	...	...	0.006	0.07	0.08	0.09
...	...	...	...	...	...	...
1.0	...	...	0.1446	0.1423	0.1401	0.1379
1.1	...	...	0.1230	0.1210	0.1190	0.1170
1.2	...	...	0.1038	0.1020	0.1003	0.0985
1.3	...	...	0.0869	0.0853	0.0838	0.0823
...	...	...	...	...	...	...

Find $P(Z \geq 1.65)$ and $P(Z \geq 1.65)$

	...	0.04	0.05	0.06	0.07	...
...	...	...	...	...	...	...
1.5	...	0.0630	0.0618	0.0606	0.0594	...
1.6	...	0.0516	0.0505	0.0495	0.0485	...
1.7	...	0.0418	0.0409	0.0401	0.0392	...
...	...	...	...	...	...	...

Estimate $P(Z \geq 1.645)$

	...	0.04	0.05	0.06	0.07	...
...	...	...	...	...	...	...
1.5	...	0.0630	0.0618	0.0606	0.0594	...
1.6	...	0.0516	0.0505	0.0495	0.0485	...
1.7	...	0.0418	0.0409	0.0401	0.0392	...
...	...	...	...	...	...	...

Using Murdoch Barnes Tables 3

Find $P(Z \geq 1.64)$ and $P(Z \geq 1.65)$.

Which row and column?

- 1.64 = 1.6+0.04 $\quad P(Z \geq 1.64) = 0.0505$
- 1.65 = 1.6+0.05 $\quad P(Z \geq 1.65) = 0.0495$

		...	0.04	0.05	0.06	0.07...
...	...	...	...	...	...	...
1.5	...	0.0630	0.0618	0.0606	0.0594	...
1.6	...	0.0516	0.0505	0.0495	0.0485	...
1.7	...	0.0418	0.0409	0.0401	0.0392	...
...	...	...	...	...	...	...