Normal Model - Height

• 68% of the values fall between 60 – 6 = 54 and 60 + 6 = 66.
• 95% of the values fall between 60 – 12 = 48 and 60 + 12 = 72.
• 99.7% of the values fall between 60 – 18 = 42 and 60 + 18 = 78.

From Heights to Percentages

• What percentage of heights fall above 70 inches?
• Draw a picture.
• How far away from the mean is 70 in terms of number of standard deviations?
Standardizing

\[ z = \frac{y - \mu}{\sigma} \]

\[ z = \frac{70 - 60}{6} = 1.67 \]

Standard Normal Model

- Standard normal table handed out in class.
- Table 3: page 662 in your text.
- [http://davidmlane.com/hyperstat/z_table.html](http://davidmlane.com/hyperstat/z_table.html)

From Percentages to Heights

- What height corresponds to the 75\textsuperscript{th} percentile?
- Draw a picture.
- The 75\textsuperscript{th} percentile is how many standard deviations away from the mean?
Standard Normal Model

- Standard normal table handed out in class.
- Table 3: page 662 in your text.
- [http://davidmlane.com/hyperstat/z_table.html](http://davidmlane.com/hyperstat/z_table.html)

Reverse Standardizing

\[ z = \frac{y - \mu}{\sigma} \]

\[ 0.67 = \frac{y - 60}{6} \]

\[ y = (6 \times 0.67) + 60 = 64.02 \]