

Normal Distribution
Empirical Rule

$5'10'' = \mu$

$2'' = \sigma$

man's height $> 6'2''$

Percentile 97.5%

man's height = $6'1''$

Percentile = 93.32%

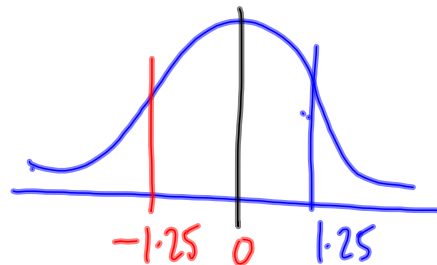
man's height = $5'7.5''$

Percentile?

$\mu = 5'10''$

$\sigma = 2''$

$X = 5'7.5''$



$\mu - x = 0'2.5''$

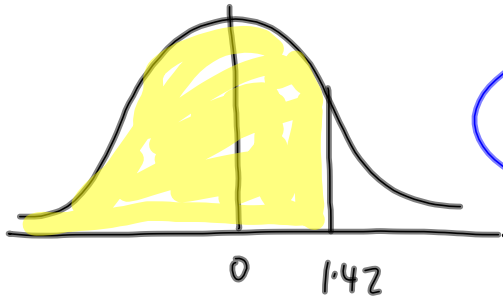
$\Rightarrow 1\frac{1}{4} \sigma's \Rightarrow z = -1.25$

Percentile for $+1.25 = 0.8944$

Percentile for $-1.25 = 1 - 0.8944 = 0.1056$

P.134

$$Q2 \quad P(Z \leq 1.42) = 0.9222$$



Ex. 3.6