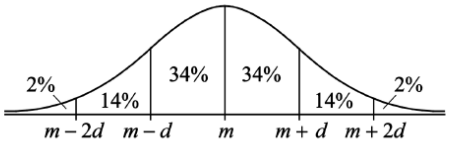
# Question 11




Suppose the heights of a population of 3,000 adult penguins are approximately normally distributed with a mean of 65 centimeters and a standard deviation of 5 centimeters.

(a) Approximately how many of the adult penguins are between 65 centimeters and 75 centimeters tall?

Answer: $m = 65\ cm$ and $d = 5\ cm$

$[m, m + 2d] = [65,75]$

$\rightarrow 16\%\ of\ 3000 = 480$

(b) If an adult penguin is chosen at random from the population, approximately what is the probability that the penguin's height will be less than 60 centimeters? Give your answer to the nearest 0.05

Answer: $m = 65\ cm$ and $d = 5\ cm$

$Prob\ (m\ \leq 60) = 0.15$