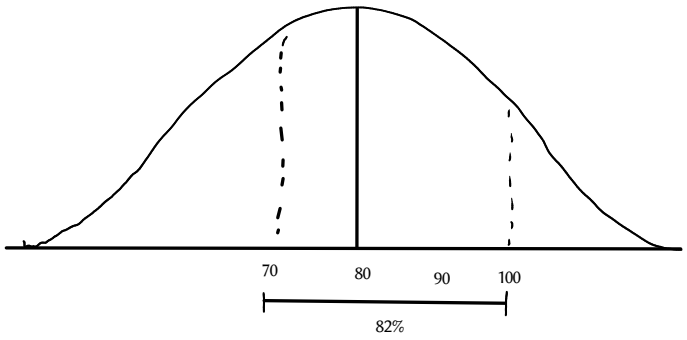
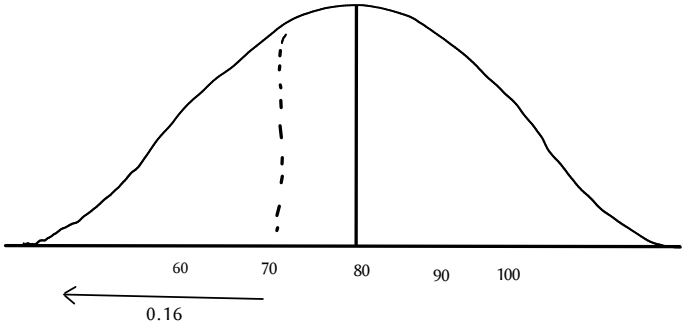
Provuppgift vecka 12

a) normCdf(70, 100, 80, 10) ≈ 0.8186

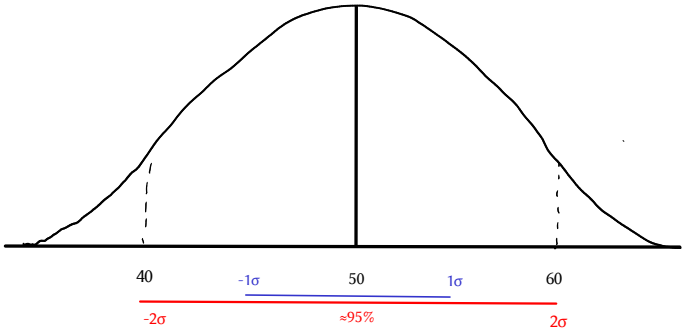
En väldigt ungefärlig skiss



b) invNorm(0.16, 80, 10) = 70.05 BPM



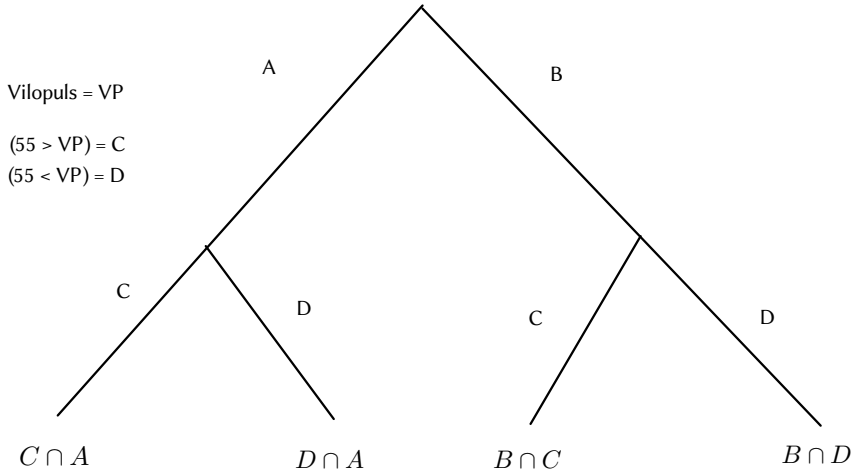
c) 40-60 = 4σ
σ = 5



d) $x = p(C)$

$p(A) = 0.98$

$p(B) = 0.02$



$p(B \cap C) = p(C|B) * p(B)$

$p(C|B) = normPdf(-\infty, 55, 50, 5) = 0.841345$

$p(B \cap C) = 0.84135 * 0.02 = 0.016827$

$p(A \cap C) = p(C|A) * p(A)$

$p(C|A) = normPdf(-\infty, 55, 80, 10) = 0.00621$

$p(A \cap C) = 0.00621 * 0.98 = 0.006085$

$p(C) = p(B \cap C) + p(A \cap C)$

$p(C) = 0.016827 + 0.006085 \approx 0.0229 = 2.29\%$

e)

$$p(B|C) = \frac{p(B \cap C)}{p(C)}$$

$$p(B|C) = \frac{0.016827}{0.022912} = 0.734414 \approx 73.4\%$$