

① a) $P(\text{minst en}) = 1 - P(\text{ingen})^{\text{ober.}} = 1 - 0.4 \cdot 0.5 \cdot 0.6 = \underline{0.88}$ (88%)
b) $P(\text{exakt en}) = P(A \cap B^c \cap C^c) + \dots^{\text{ober.}} = 0.6 \cdot 0.5 \cdot 0.6 + \dots = \underline{0.38}$ (38%)

② a) $P(\bar{X} \geq 189.7) = 1 - P(\bar{X} < 189.7) = \dots \approx \underline{10\%}$
b) \bar{X} är Bin(11, 0.10) $\Rightarrow P(\bar{X} \leq 2) \stackrel{\text{tbl.}}{=} 0.9104 \approx \underline{91\%}$
c) U är Bin(18, 0.10) $\Rightarrow P(U=4) = P(U \leq 4) - P(U \leq 3) \stackrel{\text{tbl.}}{\approx} \underline{7\%}$

③ $G = \text{godkänd}$; $T_1 = \text{centur 1:a grunden}$
$$P(G|T_1) = \frac{P(G \cap T_1)}{P(T_1)} = \frac{P(G) \cdot P(T_1|G)}{P(T_1)} = \frac{0.42}{0.42 + 0.16} \approx \underline{72\%}$$

$$P(T_1) = P(T_1|G) + P(T_1|G^c) = P(G) \cdot P(T_1|G) + P(G^c) \cdot P(T_1|G^c) = 0.58$$

④ $S = \sum_{i=1}^{150} V_i$ är approx. $N(990, \frac{1.1\sqrt{150}}{\approx 13.5})$ enl. CGS
 $P(S \geq 1000) \approx 1 - \Phi(0.74) \approx \underline{23\%}$

⑤ $2.58 \sqrt{\frac{0.5 \cdot 0.5}{n}} = 0.02 \Rightarrow \underline{n \approx 4.200}$

⑥

$a = 170$	$d = 34.6$
$b = 165$	$e = 96.9$
$c = 280$	$f = 99.2$