SEI / OVRS 2.2.2007

1) $p = 0.2$ (VERJETNOST, DA JE VOZILO TOVORNJAK)

a) $P[Y \geq 1] = 1 - P[Y = 0]$ (BINOMSKA) $n = 10$

$P[Y=0] = \binom{10}{0} (1-p)^{10} p^0 = (1-p)^{10} = 0.8^{10} = 0.10737$

$\underline{\underline{P[Y \geq 1] = 1 - 0.10737 = 0.893}}$

b) $P[Y=2]$ (BINOMSKA) $n = 10$

$\underline{\underline{P[Y=2]}} = \binom{10}{2} (1-p)^8 p^2 = \frac{10 \cdot 9}{2 \cdot 1} \; 0.8^8 \; 0.2^2 = \underline{\underline{0.3020}}$

c) 300 VOZIL/URO $\rightarrow$

$\rightarrow$ 5 VOZIL / MINUTO $\rightarrow$ $0.2 \cdot 5$ TOVORNJAKOV / MINUTO $= 1$

$\underline{\underline{\nu = 1}}$ (TOVORNJAK)

$P[Y > 1] = 1 - P[Y=0] - P[Y=1]$ (POISSON)

$P[Y=0] = \frac{\nu^0 e^{-\nu}}{0!} = e^{-1} = 0.3679$

$P[Y=1] = \frac{\nu^1 e^{-\nu}}{1!} = e^{-1} = 0.3679$

$\underline{\underline{P[Y>1]}} = 1 - 0.3679 - 0.3679 = \underline{\underline{0.2642}}$