

$$2) \quad E = a + bF + X$$

X , JE NEODVISNA OD
F IN E

$$E[E] = a + b E[F] + \underbrace{E[X]}_{=0} = \underline{\underline{12225 \text{ N/mm}^2}}$$

$$\text{var}[E] = b^2 \text{var}[F] + \text{var}[X] \Rightarrow \underline{\underline{\sigma_E = 2229.9 \text{ N/mm}^2}}$$

$$\text{cov}[FE] = E[FE] - E[F] \cdot E[E] =$$

$$= E[F(a + bF + X)] - E[F] \cdot E[E] =$$

$$= E[aF] + E[bF^2] + E[FX] - E[F] \cdot E[E] =$$

$$= a E[F] + b E[F^2] + E[FX] - E[F] \cdot E[E] =$$

$$= a E[F] + b (\text{var}[F] + E[F]^2) + \underbrace{\text{cov}[FX]}_{=0} + \underbrace{E[F] \cdot E[X]}_{=0} - E[F] \cdot E[E]$$

$$= a \cancel{E[F]} + b \text{var}[F] + b \cancel{E[F]^2} - a \cancel{E[F]} - b \cancel{E[F]^2}$$

$$\underline{\underline{\text{cov}[FE] = b \text{var}[F] = 16500}}$$