A)

$$dB = \frac{\mu_0 I ds \times r}{4\pi r^3} = \frac{\mu_0 I ds \cdot r \sin\varphi}{4\pi r^3} = \frac{\mu_0 I ds}{4\pi r^2} \qquad 0,5b$$

$$\sin\varphi = 1, \quad ds = r.d\theta \quad 0,5b$$

$$B = \int_0^\theta \frac{\mu_0 I r.d\theta}{4\pi r^2} = \frac{\mu_0 I}{4\pi r} \int_0^\theta d\theta = \frac{\mu_0 I \theta}{4\pi r} \qquad 0,5b$$

$$\theta = \pi, r = R_2 \quad B = \frac{\mu_0 I}{4\pi R_2} \qquad 0,5b$$

B)

$$dB = \frac{\mu_0 I ds \times r}{4\pi r^3} = \frac{\mu_0 I ds \cdot r \sin\varphi}{4\pi r^3} \qquad 0,5b$$

$$\sin\varphi = 0 \quad 0,5b$$

$$B = 0 \qquad 1b$$

C)

$$B_1 = \frac{\mu_0 I}{4\pi R_2} \quad , B_2 = \frac{\mu_0 I}{4\pi R_1}$$

$$B = B_1 + B_2 = \frac{\mu_0 I}{4\pi}\left(\frac{1}{R_1} + \frac{1}{R_2}\right) \qquad 0,5b$$

Smer B je kolmo do papiera   0,5b