

# Kolokwium I

2023-11-28

1. (5pkt)  $(4y + 2 + \frac{1}{x^2y})dx + (8x + \frac{2x-3}{y})dy = 0$
2. (3pkt)  $xy' = y(1 + \ln y - \ln x)$ ,  $y(4) = 2$
3. (3pkt)  $y' - y = e^x - x$
4. (3pkt)  $y' - 4xy = 6x^2 e^{x^2} \sqrt{y}$
5. (3pkt)  $y = xy' - 2 \operatorname{arctg}(y')$
6. (3pkt)  $y'' \operatorname{tg} x - y' = 1$ ,  $y(\pi/2) = 1$