

## Introduction to Commutative Algebra and algebraic Geometry Presence Exercise to Sheet 7

---

**Exercise 1.**

Let  $R = \mathbb{Q}[x, y, z]$  and  $I = \langle xy - y, 2x^2 + yz, y - z \rangle \subset R$ . Compute whether  $f = xz^3 - 2y^2$  belongs to  $I$ .

---