

# MIDTERM EXAMINATION

ALGEBRAIC GEOMETRY 2021

## INSTRUCTIONS

- (1) From the time you first accessed the exam, you have 3 hours and 30 minutes to write and upload your submission to Gradescope. You will not be able to submit after this time period or after Tuesday, September 21, 11:59pm (whichever is earlier).
- (2) You may use your own notes, our collective notes, or approved reference material (Shafarevich and Gathman). You may not search for answers on the internet or get any outside help.
- (3) You may use any result from class or homework. You must precisely cite what you use either by name (“Using the Hilbert basis theorem...”), number (“By Theorem 4.1 in our notes ...”) or by recalling the statement (“Since every ideal of a polynomial ring is finitely generated...”).
- (4) Throughout,  $k$  denotes an algebraically closed field. All varieties are defined over  $k$ .
- (5) Please do not discuss anything about the exam with anyone until Wednesday, September 22.
- (6) If you have a question, you may send it by email to `anand.deopurkar@anu.edu.au` or by text message to 0426733143, but *do not wait for a response*. Make reasonable assumptions and keep working. Do not post your question on Wattle or Zulip.