

1. Recall from the last lecture: If  $R$  is a PID and  $a, b \in R$ , how do you find their greatest common divisor of  $a$  and  $b$ ?

2. Show that an analogue of Bézout's identity is true in PID's. That is, if  $R$  is a PID and  $a, b \in R$  are nonzero elements with gcd  $d$ , then there exist  $r, s \in R$  such that  $ra + sb = d$ .