

Def 2.5 Let a, b be integers. We say that a and b are relatively prime (or coprime) if $\gcd(a, b) = 1$.

More generally, any equation

$$Au + Bv = \gcd(A, B)$$

can be reduced to the case of coprime numbers by dividing both sides by $\gcd(A, B)$. Thus

$$\underbrace{\frac{A}{\gcd(A, B)}}_{=: a} \cdot u + \underbrace{\frac{B}{\gcd(A, B)}}_{=: b} \cdot v = 1,$$

and the numbers a and b are coprime as because they satisfy $a \cdot u + b \cdot v = 1$

From the exercise: $18 = -2A + 11B \quad | : 18$

$$1 = -2 \cdot \frac{1278}{18} + 11 \cdot \frac{234}{18} = -2 \cdot \boxed{71} + 11 \cdot \boxed{13}$$

i.e., 71 and 13 are coprime.