Reading Quiz Section 3.2

1. True or False: $\gcd(-21, -12) = -3$.
2. Suppose that $a \neq 0$. Then $\gcd(a, 0)$ is equal to which number?
   (a) 0
   (b) 1
   (c) a
   (d) $|a|$
3. The sequence of remainders produced by the Euclidean algorithm when computing $\gcd(m, n)$ (select all that apply):
   (a) is decreasing
   (b) is increasing
   (c) has all non-negative terms
   (d) is infinite
4. True or False: If a and b are relatively prime then the equation $ax + by = 1$ has an integer solution (x, y).

Practice Problems Section 3.2

1. Use the Euclidean algorithm to compute $\gcd(260, 816)$ and find integers x, y such that

   $$260x + 816y = \gcd(260, 816)$$

   Video Solution
2. Find solutions to the congruence $5x \equiv 1 \pmod{6}$.
   Video Solution
3. Find all integer points on the line $225x + 120y = 15$.
   Video Solution
4. Suppose $a, b, c \in \mathbb{Z}$ are such that a and b are relatively prime, $a \mid c$, and $b \mid c$. Show $ab \mid c$.
   Video Solution