1) Define a relation R on $\mathbb{R}$ via xRy iff $xy = 10$. Prove that R is symmetric.

Assume xRy for some $x, y \in \mathbb{R}$.
$\therefore xy = 10$
$\therefore yx = 10$
$\therefore yRx$
$\therefore R$ is symmetric

2) Reduce 453 mod 25.

$453 \equiv 3 \bmod 25$

OR

$[453]_{25} = [3]_{25}$

3) Solve $4x + 13 = 3x + 10 \bmod 25$.

$4x + 13 \equiv 3x + 10$
$\therefore x \equiv -3 \equiv 22$