

NAME(s): \_\_\_\_\_

ID(s): \_\_\_\_\_

## Solving Equations in Mod 26

1. Solve for  $x$ :

a)  $y \equiv 5x + 25 \pmod{26}$  ? (Answer:  $x \equiv -5y - 5$ ) Note: There are many ways to express this answer, for example, you could also write:  $x \equiv 21y + 21$ .

b)  $y \equiv 11x + 10 \pmod{26}$  ? Answer:  $x \equiv 19y - 8$

c)  $y \equiv 17x - 7 \pmod{26}$  ? Answer:  $x \equiv 23y + 5$

d)  $y \equiv 25x + 4 \pmod{26}$  ? Answer:  $x \equiv -y + 4$

e)  $y \equiv 9x + 11 \pmod{26}$  ?