

Quiz 1 MTH 452/552

$$x^2 - 3x + 2 = 0$$

elements of $\mathbb{Z}_6$	$x^2 - 3x + 2 \pmod{6} = 0$
0	$0 - 0 + 2 = 2$
1	$1 - 3 + 2 = 0 \checkmark$
2	$4 - 6 + 2 = 0 \pmod{6} \checkmark$
3	$9 - 9 + 2 = 2$
4	$16 - 12 + 2 = 6 \pmod{6} = 0 \checkmark$
5	$25 - 15 + 2 \pmod{6} = 10 + 2 \pmod{6} = 0 \checkmark$

$\Rightarrow$  solutions to  $x^2 - 3x + 2 = 0$  in  $\mathbb{Z}_6$  are 1, 2, 4, 5