Math 255 - Spring 2022

$x^2 \equiv a \pmod{p^k}$

10 points

This homework invites you to solve two simple quadratic equations modulo a power of an odd prime. Please show all of your work; answers without work will not earn any points. Give all solutions to the following two equations:

1. $x^2 \equiv 23 \pmod{49}$
2. $x^2 \equiv 34 \pmod{81}$