

You're given  $x^2 - 4x + c = 0$  and you're told  $x = -5$  is a root.

1) Replace  $x$  with  $-5$ :  $(-5)^2 - 4(-5) + c = 0$

2) Square and multiply:  $25 + 20 + c = 0$

3) Add:  $45 + c = 0$

4) Subtract:  $c = -45$

5) So now you have the equation:  $x^2 - 4x - 45 = 0$