

## Homework 8

### 1. Polynomial practice

for

$$p(x) = x^3 - 5x^2 - 4x + 20$$

a) find an integer root  $a$ , i.e.  $p(a) = 0$  (clue  $a < 7$ )

b) write this in terms of a lower degree polynomial  $q(x)$

such as  $p(x) = (x - a)q(x)$

What are the degrees of  $p(x)$  and  $q(x)$  ?

Note we are doing this over the real numbers, for zkps we would use a finite field

### 2. Listen to the Zero Knowledge [podcast](#) about the evolution of SNARKS