

8 5

$$\begin{array}{r} 00 \\ \times \\ \hline \end{array} \begin{array}{r} 11 \\ y \end{array}$$

$$x \oplus (x - y)$$

$$x \quad x + d$$

↑  
value x  
divisible by d

$$\text{gcd}(x, x+d) = \text{gcd}(x, d)$$

$$\begin{array}{r} -3 \quad -5 \\ 2 \quad 5 \end{array}$$

$$12$$

$$\begin{array}{r} 4 \quad 7 \\ 3 \quad 6 \quad 6 \quad 9 \\ \checkmark \quad \checkmark \quad \checkmark \quad \checkmark \end{array}$$

$$x \text{ steps}$$

$$x \rightarrow \begin{cases} c \\ m \\ p \rightarrow \text{game over} \end{cases}$$

$$p \leq v \Rightarrow p := 0$$

$$p > v \Rightarrow p := p - v$$

rest distributed

$$\begin{array}{r} \text{max} \\ 9333 \end{array} \quad 10.933 \quad 9.33 =$$

$$(p_1, p_2, p_3)$$

$$0.1235$$

$$0.0001 \quad 10.00$$

full + partial

$$(a+b) \bmod k$$

$$p_{old} \in [0, n-1]$$

$$p_{old} : x \quad \text{guess} : y \Rightarrow \text{new } p_{old}$$

$$x \oplus_k [2] = y$$

$$\begin{array}{r} 10 \\ \oplus_k \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 01 \\ 100 \\ \hline \end{array}$$

$$101 \Leftarrow p_{old} := p_{old} \oplus_k \text{guess}$$

$$\begin{array}{r} 1011 \\ 0001 \\ \hline 1010 \end{array}$$

$$\begin{array}{r} 11 \\ 10 \\ \hline 01 \\ 100 \\ \hline 101 \end{array}$$

$$1011$$

$$\begin{array}{r} 1 \\ 10 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 0 \\ 11 \\ 10 \\ \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ 10 \\ 1 \\ \hline 10 \\ 100 \\ 10 \\ 10 \end{array}$$

$$\begin{array}{r} 00 \\ 01 \\ 11 \\ 10 \\ \checkmark \end{array}$$

$$\begin{array}{r} 01 \\ \checkmark \end{array}$$

$$\begin{array}{r} 10 \\ 11 \\ 01 \\ \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ 10 \\ \checkmark \end{array}$$

$$\begin{array}{r} 10(2) \\ 01 \\ \hline 11(1) \end{array}$$

$$\begin{array}{r} 10 \\ \boxed{21} \\ 01 \end{array}$$

$$\begin{array}{r} 10 \\ \times y \\ \hline 01 \end{array}$$

$$\boxed{\begin{array}{l} x=2 \\ y=1 \end{array}}$$

$$\begin{array}{r} 10 \\ 21 \end{array}$$

$$2 \cdot 3 \Rightarrow 7 \quad 14$$

↓