

n1

$$36223$$

$$190^2 \leq 36223$$

$$200^2 = 40000$$

$$190^2 = 36100$$

n2

$$\begin{array}{r|l} 2002 & 2 \\ 1001 & 7 \\ 143 & 11 \\ 13 & \end{array}$$

$$2002 = 2 \cdot 7 \cdot 11 \cdot 13$$

16-gemeinsam

n3

$$51x + 46y = 2002$$

KOP

$$\begin{array}{r|l} 51 & 3 \\ 17 & \end{array}$$

$$\begin{array}{r|l} 46 & 2 \\ 23 & \end{array}$$

$$x = 14$$

$$y = 28$$

$$51x + 46y = 51 \cdot 14 + 46 \cdot 28$$

$$\cancel{46y} = 46y - 46 \cdot 28 = -51x + 51 \cdot 14$$

$$46(y - 28) = -51(x - 14)$$

$$x - 14 = 46k$$

$$46(y - 28) = -51 \cdot 46k$$

$$y - 28 = -51k$$

$$y = -51k + 28$$

$$x = 46k + 14$$



4.2

$$3x + 112_z = 346_z$$

1 choice

$$3x + 58 = 181$$

$$3x = 181 - 58$$

$$3x = 123$$

$$x = 41_{10} = 56_z$$

$$112_z = 2 + 7 + 49 = 58$$

$$346_z = 6 + 28 + 147 = 181$$

$$\begin{array}{r} \overline{41} \mid 7 \\ 35 \\ \hline 6 \end{array}$$

2 choices

$$3x + 112 = 346_z$$

$$3x = 346 - 112$$

$$3x = 234$$

$$x = 56$$

$$\begin{array}{r} 346 \\ - 112 \\ \hline 234 \end{array}$$

$$\begin{array}{r} \overline{234} \mid 3 \\ 21 \\ \hline 24 \\ - 24 \\ \hline 0 \end{array}$$