

**3.7**

$$\begin{aligned} 1) \quad & 528 = 312 \cdot 1 + 216 \\ & 312 = 216 \cdot 1 + 96 \\ & 216 = 96 \cdot 2 + 24 \\ & 96 = 24 \cdot 4 \end{aligned}$$

$$\text{pgcd}(528, 312) = 24$$

$$\begin{aligned} 2) \quad & 390 = 286 \cdot 1 + 104 \\ & 286 = 104 \cdot 2 + 78 \\ & 104 = 78 \cdot 1 + 26 \\ & 78 = 26 \cdot 3 \end{aligned}$$

$$\text{pgcd}(-286, 390) = \text{pgcd}(286, 390) = 26$$

$$\begin{aligned} 3) \quad & 538 = 392 \cdot 1 + 146 \\ & 392 = 146 \cdot 2 + 100 \\ & 146 = 100 \cdot 1 + 46 \\ & 100 = 46 \cdot 2 + 8 \\ & 46 = 8 \cdot 5 + 6 \\ & 8 = 6 \cdot 1 + 2 \\ & 6 = 2 \cdot 3 \end{aligned}$$

$$\text{pgcd}(538, 392) = 2$$

$$\begin{aligned} 4) \quad & 22\,680 = 3528 \cdot 6 + 1512 \\ & 3528 = 1512 \cdot 2 + 504 \\ & 1512 = 504 \cdot 3 \end{aligned}$$

$$\text{pgcd}(22\,680, 3528) = 504$$

$$11\,088 = 504 \cdot 22$$

$$\text{pgcd}(11\,088, 504) = 504$$

$$\begin{aligned} \text{pgcd}(22\,680, 3528, 11\,088) &= \text{pgcd}(\text{pgcd}(22\,680, 3528), 11\,088) \\ &= \text{pgcd}(504, 11\,088) \\ &= 504 \end{aligned}$$