

5.1

$$\begin{array}{ccccccc}
 & & & \mathbb{F} & & & \\
 & & & \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} & & & \\
 & & & \downarrow & & & \\
 \mathbb{F} & \xrightarrow{\begin{bmatrix} 1 \\ 0 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 0 \\ 0 & 1 \\ 0 & 0 \end{bmatrix}} & \mathbb{F}^3 & \xrightarrow{\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

5.2

$$\begin{array}{ccccccc}
 & & & \mathbb{F} & & & \\
 & & & \begin{bmatrix} 1 & 0 \\ 0 & 0 \\ 0 & 1 \end{bmatrix} & & & \\
 & & & \downarrow & & & \\
 \mathbb{F} & \xrightarrow{\begin{bmatrix} 0 \\ 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 0 \\ 0 & 1 \\ 0 & 0 \end{bmatrix}} & \mathbb{F}^3 & \xrightarrow{\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

11.1

$$\begin{array}{ccccccc}
 & & & \mathbb{F} & & & \\
 & & & \begin{bmatrix} 0 & 0 & 1 \end{bmatrix} & & & \\
 & & & \uparrow & & & \\
 \mathbb{F} & \xrightarrow{\begin{bmatrix} 0 \\ 1 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 0 & 0 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

11.2

$$\begin{array}{ccccccc}
 & & & \mathbb{F}^2 & & & \\
 & & & \begin{bmatrix} 0 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix} & & & \\
 & & & \uparrow & & & \\
 \mathbb{F} & \xrightarrow{\begin{bmatrix} 0 \\ 1 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 0 & 0 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 0 & 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

20.1

$$\begin{array}{ccccccc}
 & & & \mathbb{F} & & & \\
 & & & \uparrow & & & \\
 & & [1 \ 1 \ 1] & & & & \\
 \mathbb{F} & \xleftarrow{\begin{bmatrix} 1 & 0 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 0 & 0 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 0 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 0 \\ 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

20.2

$$\begin{array}{ccccccc}
 & & & \mathbb{F}^2 & & & \\
 & & & \uparrow & & & \\
 & & \begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix} & & & & \\
 \mathbb{F} & \xleftarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 0 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 0 & 0 \\ 0 & 1 \\ 1 & 0 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 1 \\ 0 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

31.1

$$\begin{array}{ccccccc}
 & & & \mathbb{F} & & & \\
 & & & \downarrow & & & \\
 & & \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} & & & & \\
 \mathbb{F} & \xleftarrow{\begin{bmatrix} 1 & 0 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 0 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 1 & 0 \\ 0 & 0 \\ 0 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}
 \end{array}$$

31.2

$$\begin{array}{ccccccc}
 & & & \mathbb{F}^2 & & & \\
 & & & \downarrow & & & \\
 & & \begin{bmatrix} 0 & 0 \\ 1 & 0 \\ 0 & 1 \end{bmatrix} & & & & \\
 \mathbb{F} & \xleftarrow{\begin{bmatrix} 1 & 1 \end{bmatrix}} & \mathbb{F}^2 & \xleftarrow{\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}} & \mathbb{F}^3 & \xleftarrow{\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 0 \end{bmatrix}} & \mathbb{F}^2 & \xrightarrow{\begin{bmatrix} 1 & 0 \end{bmatrix}} & \mathbb{F}
 \end{array}$$