1.27 $f(x) = ax^2 + bx + c \rightarrow (1,2), (-1,6), (2,3)$

$$\left[\begin{array}{ccc|c} 1 & 1 & 1 & 2 \\ 1 & -1 & 1 & 6 \\ 4 & 2 & 1 & 3 \end{array}\right] \Rightarrow \left[\begin{array}{ccc|c} 2 & 0 & 2 & 8 \\ 1 & -1 & 1 & 6 \\ 0 & -2 & -3 & -5 \end{array}\right] \Rightarrow \left[\begin{array}{ccc|c} 1 & 0 & 1 & 4 \\ 0 & -1 & 0 & 2 \\ 0 & -2 & -3 & -5 \end{array}\right]$$

$r_3 = r_3 + (-4)r_1$ $\quad r_1 \cdot \frac{1}{2}$

$r_1 = r_1 + r_2$ $\quad r_2 = r_2 + (-1)r_1$

$$\Rightarrow \left[\begin{array}{ccc|c} 1 & 0 & 1 & 4 \\ 0 & -1 & 0 & 2 \\ 0 & 0 & -3 & -9 \end{array}\right] \Rightarrow \left[\begin{array}{ccc|c} 1 & 0 & 0 & 1 \\ 0 & -1 & 0 & 2 \\ 0 & 0 & -1 & -3 \end{array}\right]$$

$a = 1$
$b = -2$
$c = 3$

$r_3 = r_3 + (-2)r_2$ $\quad r_3 \cdot \frac{1}{3}$

$r_1 = r_1 + r_3$

$$f(x) = x^2 - 2x + 3$$