$$\sigma_0 = x_2 - x_1 \qquad \sigma_0 \geq 0$$
$$\sigma_1 = \sigma_0 - 2(y_2 - y_1) \qquad \sigma_1 \gtrless 0$$
$$\sigma_2 = \sigma_1 - 2(y_2 - y_1) \qquad \sigma_2 \gtrless 0$$
$$\sigma_3 = \sigma_2 - 2(y_2 - y_1) \qquad \sigma_3 \leq 0$$