$$w \equiv \begin{cases} 0 & c = d = 0 \\ \sqrt{|c|} \sqrt{\frac{1 + \sqrt{1 + (d/c)^2}}{2}} & |c| \ge |d| \\ \sqrt{|d|} \sqrt{\frac{|c/d| + \sqrt{1 + (c/d)^2}}{2}} & |c| < |d| \end{cases}$$
(9.4a)
$$\sqrt{c + id} = \begin{cases} 0 & w = 0 \text{ (case 9.4a)} \\ w + i \frac{d}{2w} & w \ne 0, c \ge 0 \\ \frac{|d|}{2w} + iw & w \ne 0, c < 0, d \ge 0 \\ \frac{|d|}{2w} - iw & w \ne 0, c < 0, d < 0 \end{cases}$$
(9.5b)