In practice it is more convenient to present $y_2$ and $y_3$ thus:

$$y_2 = -2\sqrt{\frac{-p}{3}}\cos\left(60^\circ - \frac{\phi}{3}\right),$$

$$y_3 = -2\sqrt{\frac{-p}{3}}\cos\left(60^\circ + \frac{\phi}{3}\right).$$

**Example 1.** For the equation

$$y^3 - 3y + 1 = 0$$

we have

$$\sqrt{\frac{-p}{3}} = 1, \qquad \cos\phi = -\frac{1}{2};$$

hence, $\phi = 120^\circ$ and

$$y_1 = 2\cos 40^\circ, \qquad y_2 = -2\cos 20^\circ, \qquad y_3 = 2\cos 80^\circ.$$

Approximate values of the roots can be found directly from the trigonometric tables and are

$$\begin{aligned} y_1 &= 1.5320888862, \\ y_2 &= -1.8793852416, \\ y_3 &= 0.3472963554. \end{aligned}$$

**Example 2.** To solve the equation

$$y^3 - 7y - 7 = 0.$$

For this equation

$$p = -7, \qquad q = -7, \qquad -\Delta = 49$$

and

$$\tan\phi = \frac{1}{\sqrt{27}}.$$

Further computation was made with six-place tables of logarithms. The calculations and results can be presented as follows:

$$\begin{aligned} \log 27 &= 1.431364 \\ \log\sqrt{27} &= 0.715682 \\ \log\tan\phi &= 9.284318 \\ \phi &= 10^\circ 53' 36''.2 \\ \tfrac{1}{3}\phi &= 3^\circ 37' 52''.0 \end{aligned}$$

$$\begin{aligned} \log 7 &= 0.845098 \\ \log 3 &= 0.477121 \\ \hline \log \tfrac{7}{3} &= 0.367977 \\ \log\sqrt{\tfrac{7}{3}} &= 0.183988 \\ \log 2 &= 0.301030 \\ \hline \log 2\sqrt{\tfrac{7}{3}} &= 0.485018 \end{aligned}$$

$$\begin{aligned} \log\cos\frac{\phi}{3} &= 9.999128 - 10 \\ &\phantom{=}\ 0.485018 \\ \hline \log y_1 &= 0.484146 \\ y_1 &= 3.04892 \\ \hline \log\cos\left(60^\circ + \frac{\phi}{3}\right) &= 9.647528 - 10 \\ &\phantom{=}\ 0.485018 \\ \hline \log(-y_2) &= 0.132546 \\ -y_2 &= 1.35689 \\ \hline \log\cos\left(60^\circ - \frac{\phi}{3}\right) &= 9.743387 - 10 \\ &\phantom{=}\ 0.485018 \\ \hline \log(-y_3) &= 0.228405 \\ -y_3 &= 1.69202 \\ \hline \end{aligned}$$

$$\begin{aligned} y_1 &= \phantom{-}3.04892 \\ y_2 &= -1.35689 \\ y_3 &= -1.69202 \\ \hline &\phantom{=-}0.00001 \end{aligned}$$