

$$\operatorname{tg} 4a = \frac{2 \operatorname{tg} 2a}{1 - (\operatorname{tg} 2a)^2}$$

$$= \frac{2 \cdot \frac{10}{24}}{1 - \left(\frac{10}{24}\right)^2} = \frac{\frac{10^5}{12^5}}{1 - \frac{100}{576}}$$

$$= \frac{\frac{5}{6}}{\frac{476}{576}} = \frac{5 \cdot 576}{6 \cdot 476}$$

$$= \frac{5 \cdot 96}{476}$$

$$= \frac{5 \cdot 24}{119}$$

$$\| \operatorname{tg} 4a = \frac{120}{119} \|$$

Logo

$$\operatorname{tg}(4a-b) = \frac{\operatorname{tg} 4a - \operatorname{tg} b}{1 + \operatorname{tg} 4a \operatorname{tg} b}$$

$$= \frac{\frac{120}{119} - \frac{1}{239}}{1 + \frac{120}{119} \cdot \frac{1}{239}}$$

$$= \frac{120 \cdot 239 - 119}{119 \cdot 239}$$

$$\frac{119 \cdot 239 + 120}{119 \cdot 239}$$

$$= \frac{28561}{28561}$$

$$\operatorname{tg}(4a-b) = 1$$

$$\left. \begin{aligned} \operatorname{tg} 40 - \operatorname{tg} 20 &= 2 \\ 0 < \theta < \frac{\pi}{2} \end{aligned} \right\}$$

$$\operatorname{tg} 40 = \frac{1}{\operatorname{ctg} 40}$$

$$\operatorname{tg} 20 = \frac{1}{\operatorname{ctg} 20}$$

$$\operatorname{tg} 40 - \operatorname{tg} 20 = 2$$

$$\frac{1}{\operatorname{ctg} 40} - \frac{1}{\operatorname{ctg} 20} = 2$$

$$\frac{1}{\cos^2 20 - \sin^2 20} - \frac{1}{\cos 20} = 2$$

$$\frac{1}{2 \cos^2 20 - 1} - \frac{1}{\cos 20} = 2$$

$$\frac{1}{2 \cos^2 20 - 1} = 2 + \frac{1}{\cos 20}$$

$$\frac{1}{2 \cos^2 20 - 1} = \frac{2 \cos 20 + 1}{\cos 20}$$

$$\cos 20 = (2 \cos 20 + 1)(2 \cos^2 20 - 1)$$

$$\cos 20 = 4 \cos^3 20 - 2 \cos 20 + 2 \cos^2 20 - 1$$