

$$\begin{aligned}
 R_1 &= \frac{N_1 m}{2} = \frac{24 \times 2}{2} = 24.00 \text{ mm} & m &= 2 \text{ mm} \\
 R_2 &= \frac{N_2 m}{2} = \frac{40 \times 2}{2} = 40.00 \text{ mm} & \phi &= 20^\circ \\
 R_{b1} &= R_1 \cos \phi = 24 \times \cos 20^\circ = 22.55 \text{ mm} & N_1 &= 24 \\
 R_{b2} &= R_2 \cos \phi = 40 \times \cos 20^\circ = 37.59 \text{ mm} & N_2 &= 40 \\
 a &= 1.000 m = 2.000 \text{ mm} \\
 b &= 1.250 m = 2.500 \text{ mm} \\
 t &= \frac{p}{2} = \frac{\pi m}{2} = \frac{\pi \times 2}{2} = 3.142 \text{ mm}
 \end{aligned}$$

<http://hwang.nfu.edu.tw/misc/bevel-V9R1.pdf>

<http://hwang.nfu.edu.tw/misc/worm-gear.pdf>

Quiz#6

5. A 2mm module , 20degree pinion of 24 teeth drives a gear of 48 teeth. The pinion rotate with an angular velocity 120RPM(CCW) . Calculate (A)Radius of pitch circle (B)Radius of base circle (C)Dedendum (D)Addendum (E)Diametral pitch (F)Center distance (G) The angular velocity of gear(magnitude and direction).