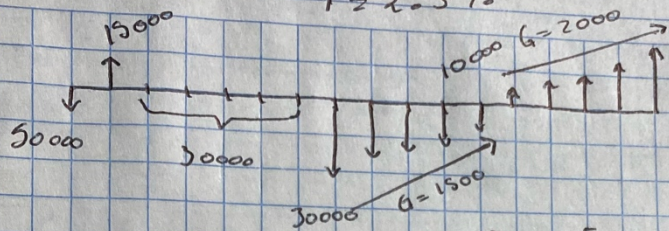


$i = 2.3\%$



$$PTG: A \left[\frac{1 - (1+i)^{-n}}{i} \right] - \frac{C}{i} \left[\frac{1 - (1+i)^{-n}}{i} - \frac{1}{(1+i)^n} \right]$$

$P = 50000$

$$P = 30000 \left[\frac{1 - (1 + .023)^{-5}}{.023} \right] \left(\frac{1}{(1 + .023)^5} \right) = 137029.21$$

$$PTG = 30000 \left[\frac{1 - (1 + .023)^{-5}}{.023} \right] - \frac{1500}{.023} \left[\frac{1 - (1 + .023)^{-5}}{.023} - \frac{1}{(1 + .023)^5} \right] = 126481.51$$

$PTG = 126481.51$

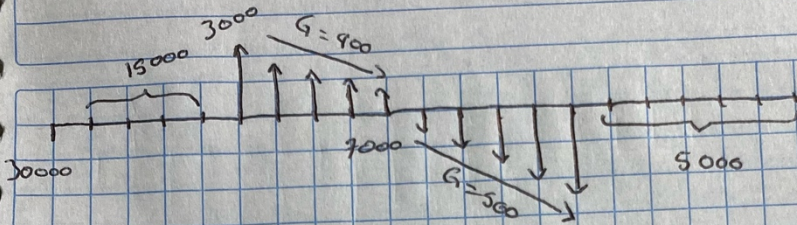
$$PTG = \left(\frac{110350.22}{(1 + .023)^6} \right) = \frac{110350.22}{297379.46}$$

$$PTG = 10000 \left[\frac{1 - (1 + .023)^{-5}}{.023} \right] - \frac{2000}{.023} \left[\frac{1 - (1 + .023)^{-5}}{.023} - \frac{1}{(1 + .023)^5} \right] = 64997.8$$

$$PTG = \left(\frac{64997.8}{(1 + .023)^6} \right) = 50669.86$$

$$P = \frac{15000}{(1 + .023)^6} = \frac{11662.75}{65272.41} = 222107.05$$

$$i = 3\%$$



$$P = 3000$$

$$PTG = 7000 \left[\frac{1 - (1 + .03)^{-5}}{.03} \right] + \frac{500}{.03} \left[\frac{1 - (1 + .03)^{-5}}{.03} - \frac{5}{(1 + .03)^5} \right] = 36562.33$$

$$PTG \left(\frac{36562.33}{(1 + .03)^9} \right) = 27975.99$$

$$P = 5000 \left[\frac{1 - (1 + .03)^{-6}}{.03} \right] \left[\frac{1}{(1 + .03)^{14}} \right] = \frac{17907.00}{75882.99}$$

$$P = 15000 \left[\frac{1 - (1 + .03)^{-4}}{.03} \right] = 55756.47$$

$$PTG = 3000 \left[\frac{1 - (1 + .03)^{-5}}{.03} \right] - \frac{400}{.03} \left[\frac{1 - (1 + .03)^{-5}}{.03} - \frac{5}{(1 + .03)^5} \right]$$

$$PTG \left(\frac{1}{(1 + .03)^4} \right) = \frac{9048.00}{69804.47}$$

$$= 140687.46$$