F1 $$F_{crank} = \frac{F_{applied} R_{crank\ arm}}{R_{chain\ ring}}$$

F2 $$F_{cog} = F_{crank}$$

F3 $$F_{propel} = \frac{F_{cog} R_{cogset}}{R_{rear\ wheel}}$$

F_{crank} : force from crank arm
$F_{applied}$: force applied to pedal
$R_{crank\ arm}$: length of crank arm
$R_{chain\ ring}$: radius of chain ring
F_{cog} : force from cogset
R_{cogset} : radius of cogset
$R_{rear\ wheel}$: radius of rear wheel
F_{propel} : force propelling bicycle forward