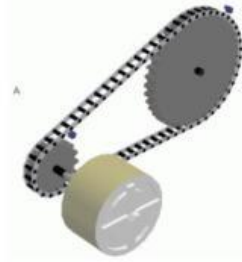


1. A motor rotates at 500 rpm, it is connected to a 20-tooth gear. The input gear moves another of 100 teeth by means of a metal chain. A. Calculate the gear ratio. B. Calculate the speed at which the big wheel moves.

Data: Formula: $\square \times \square = \square \times \square$
 N1=
 Z1= r= /
 N2= a) solution: r =
 Z2= b) solution: N₂= rpm.



2. The bicycle mechanism chain and sprocket of 40 teeth moves the smaller of 10 teeth. If the cyclist pedals 50 times in one minute and the wheels have a radius of 30 cm, calculate: a. gear ratio b. rotational speed of the wheel c. Linear speed.

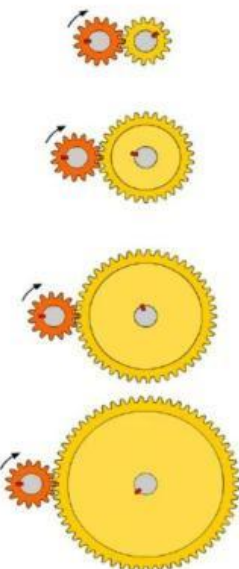
Data: Formula: $\square \times \square = \square \times \square$
 N1=
 Z1= r= /
 N2= a) solution: r =
 Z2= b) solution: N₂= rpm



$$v = \frac{s}{t} = N \frac{2\pi}{60} R$$

c) solution: v= cm/s; pass to m/s= m/s

3. In the following system of gears, the input wheel marked with the yellow arrow has 15 teeth and rotates at 10 rpm. Calculate the output speed of rotation.



a. Z2= 15 teeth
N2= rpm

b. Z2=30 teeth
N2= rpm

c. Z2=45 teeth
N2= rpm

d. Z2=60 teeth
N2= rpm

