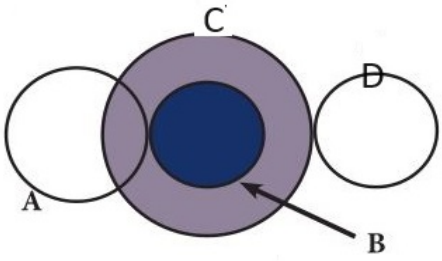
Name: Lucy

For the system of gears pictured, when gear A = 90 teeth, gear B = 14 teeth, gear C = 96 teeth, and gear D = 30 teeth, and the input torque is 52 N-m, what is the output torque (precision of 0.01)?



A → B

90 / 14

C → D

96 / 30

$\frac{W_1}{W_2} = \frac{T_1}{52}$

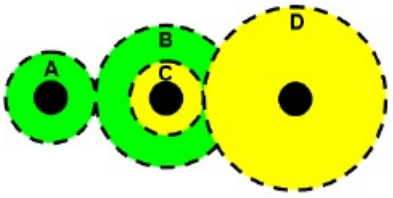
$\frac{144}{7} = \frac{T_2}{52}$

$\frac{(144 \cdot 52)}{7} = T_2$

$T_2 = 1069.71$ N-m

$\frac{390}{14} \cdot \frac{96}{30} = \frac{144}{7}$

For the system of gears pictured, when gear A = 18 teeth, gear B = 44 teeth, gear C = 32 teeth, and gear D = 28 teeth, and the input torque is 40 N-m, what is the output torque (precision of 0.01)?



A → B

18 / 44

C → D

32 / 28

$\frac{36}{77} = \frac{T_2}{40}$

$\frac{(36 \cdot 40)}{77} = T_2$

18.70 N-m $= T_2$

$\frac{18}{11} \cdot \frac{32}{28} = \frac{72}{154} = \frac{36}{77}$

Write ONLY answers below this line _____

GRSSet27

a: 1069.71

b: 18.70