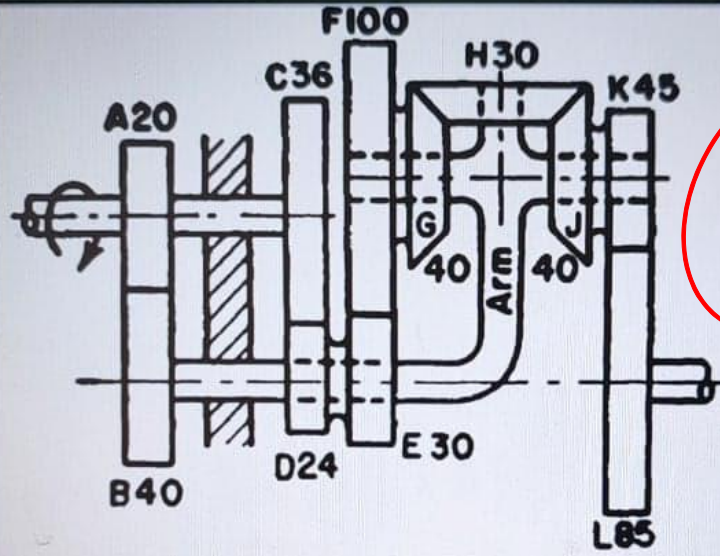


Answer saved  
Marked out of 10.00  
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$\frac{13}{15}$

In the figure, gears A and C rotate on the same shaft at an angular velocity of ( $\omega_{student}$ ) rpm, in the direction shown. Determine the speed and direction of rotation of gear L.

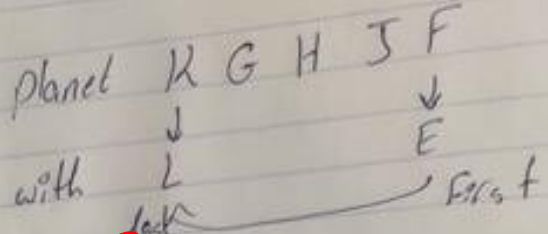
Remark:  $\omega_{student}$  is extracted from the first three digits of the registration number of the student. For example, if your registration number is 1162157 then  $\omega_{student} = 157$  rpm.

A B C D E F G H J K L



1202337

Yousef Esaid Gear Quiz



directly in mesh with L

$W_L = W_{\text{first}}$   
 $W_E = W_{\text{first}}$   
 $\frac{W_L - 168.5}{-505.5 + 168.5} = \frac{W_L - W_{\text{arm}}}{W_{\text{first}} - W_{\text{arm}}} = \frac{W_L}{W_F} \cdot \frac{T_{\text{driver}}}{T_{\text{driven}}} = \left( \frac{N_E}{N_F} \cdot \frac{-N_G}{N_H} \cdot \frac{+N_H}{N_5} \right) \cdot \frac{N_5}{N_L} = -0.1588$

$\frac{W_L - 168.5}{-337} = -0.1588$   
 $W_L = 222 \text{ rpm}$

$\frac{W_A}{W_B} = -\frac{N_B}{N_A}$   
 $\frac{337}{W_B} = -\frac{40}{20}$   
 $W_B = -168.5 \text{ rpm} = W_{\text{arm}}$

$\frac{W_c}{W_d} = -\frac{N_d}{N_c}$   
 $\frac{337}{W_d} = -\frac{24}{36}$   
 $W_d = -505.5 \text{ rpm} = W_E$

