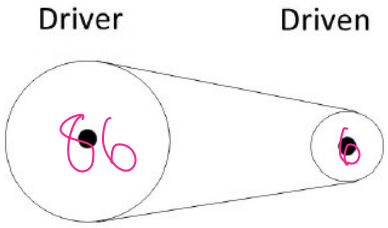
Name:_____

For the system of sprockets pictured, when driver sprocket = 86 cm, driven sprocket = 6 cm, and the output torque is 88 N-m, what is the input torque (precision of 0.01)?

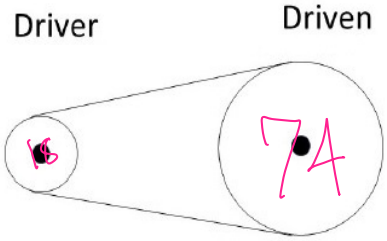


$\frac{n_1}{n_2} = \frac{T_2}{T_1} = \frac{d_2}{d_1}$

$\frac{88\ N\cdot m}{T_1} = \frac{6\ cm}{86\ cm}$

$T_1 = \frac{(88\ N\cdot m \cdot 86\ cm)}{6\ cm} = 1261.33\ N\cdot m$

For the system of sprockets pictured, when driver sprocket = 18 cm, driven sprocket = 74 cm, and the output torque is 62 N-m, what is the input torque (precision of 0.01)?



$\frac{T_2}{T_1} = \frac{d_2}{d_1}$

$\frac{62}{T_1} = \frac{74}{18}$

$T_1 = \frac{(18 \cdot 62)}{74} = 15.08$

Write ONLY answers below this line _____

SPRSet27

a: 1261.33

b: 15.08