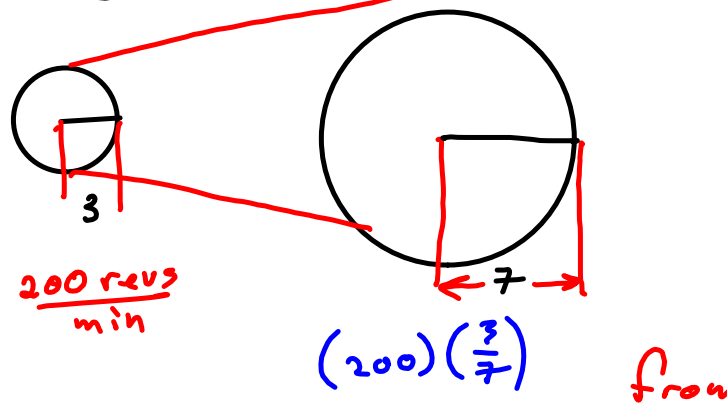
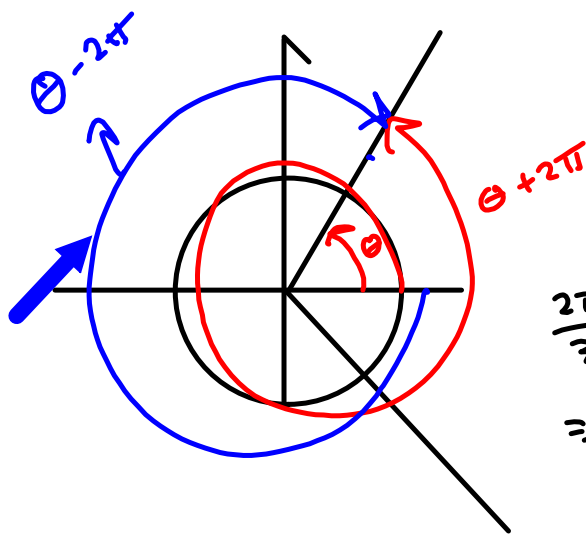


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Course Shell online.aims.edu



For pulley questions, the ratio of the radii is the same (well, the reciprocal of) as the ratio of the rpm's.



$$\frac{2\pi}{3} + 2\pi$$

$$= \frac{2\pi + 6\pi}{3} = \frac{8\pi}{3}$$

$$\frac{2\pi}{3} - 2\pi = -\frac{4\pi}{3}$$

§ 1.1 #27 (on WebAssign)

Car moves @ $67 \frac{\text{mi}}{\text{hr}}$

Diam of wheel is 2 ft

Find rpm of wheel.

$$\frac{\theta}{t} = \frac{s}{r} = \frac{67 \frac{\text{mi}}{\text{hr}}}{1 \text{ ft}} = \left(\frac{67 \text{ rad}}{\text{hr}} \right) \left(\frac{1 \text{ rev}}{2\pi \text{ rad}} \right)$$

$$= \left(\frac{1 \text{ hr}}{60 \text{ min}} \right) \left(\frac{\text{mi}}{\text{ft}} \right) \left(\frac{5280 \text{ ft}}{1 \text{ mi}} \right)$$

$$= \frac{(67)(5280)}{(2\pi)(60)} \frac{\text{rev}}{\text{min}}$$

Need to be same units!

