To calculate the period of revolution (T) of an object spinning a circular path of diameter d and affected by a centripetal force $\boldsymbol{F}_c$, which formula is to be applied?

ATTEMPT 1

- $T = 2\pi^2 \frac{m\ d}{\boldsymbol{F}_c}$
- $T = 2\pi \sqrt{\frac{m\ d}{2\boldsymbol{F}_c}}$ ✓
- $T = 2\pi \sqrt{2m\ d\ \boldsymbol{F}_c}$
- $T = 2\pi \sqrt{\frac{m\ d}{\boldsymbol{F}_c}}$

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The equation for the centripetal acceleration, based on the radius and period of revolution shows that the centripetal acceleration [1. increases ✓] with a larger radius and [2. decreases ✓] with a larger period of revolution (or rotation).

doesn't change

1. increases ✓

2. decreases ✓

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Which formula do you apply to calculate the period of revolution (T) of an object spinning at a velocity v along a circular trajectory of radius r?

ATTEMPT 1

- $T = 4\pi\sqrt{\frac{r}{v}}$
- $T = 2\pi\frac{r}{v}$ ✓
- $T = 4\pi\frac{r}{v^2}$
- $T = 2\pi\frac{v}{r}$

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Select the correct answer.



Calculate the centripetal acceleration at which the tip of the seconds' hand of Samer's watch is moving knowing that this hand is 1.2 cm long.

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- $4.2 \times 10^{-4}\ m/s^2$
- $0.79\ m/s^2$
- $0.013\ m/s^2$
- $1.3 \times 10^{-4}\ m/s^2$ ✓

Hammer throwers are normally large athletes. They use their bodies to balance the forces of the hammer as it swings around.

The Olympic sized hammer has a mass of 7.26 kg and is on a cable 1.21m long.

What is the tension developed in the cable as it is swung around by an athlete with 0.7 m long arms at 2 revolutions every second?

- 697.0 N
- 679.0 N

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- 1,095 N
- 2,188 N ✓