



Science Virtual Learning

MPI Physics

Rotational Dynamics 1: Torque

April 17, 2020



Lesson: MPI Rotational Dynamics 1 - Torque
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Objective: To understand the concept of torque, and how it is calculated

The following videos discuss the cause of rotational motion, torque, and what it depends on.

Part 1: <https://youtu.be/3QjbxMbAQb0>

Part 2: https://youtu.be/u_RGNLG8sVw

Videos: Torque, Part 1 and 2



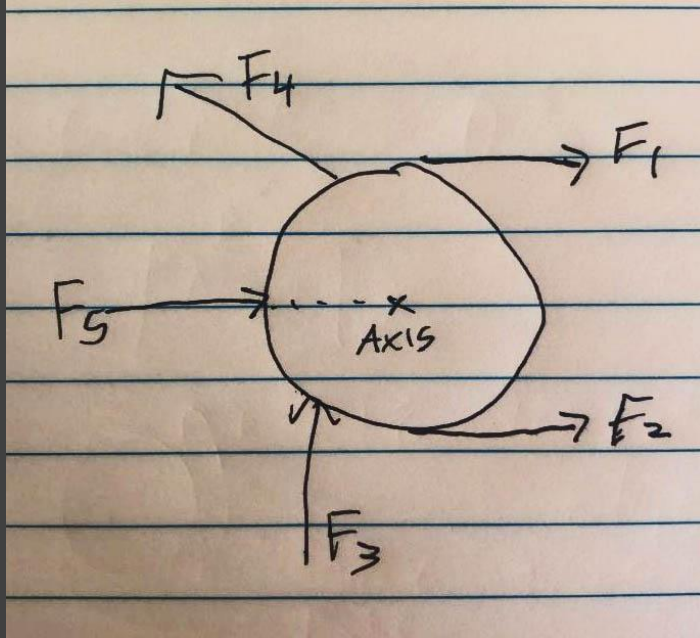
The following example is included in the video for Part 2.

- A wrench is turned clockwise with a 20.0 N force applied 0.16 m from the axis. The force makes a 70.0 deg angle with the wrench. How much torque does it create?

Torque Example from Part 2



Homework 1



1. Tell whether each force in the diagram creates a positive torque, negative torque, or zero torque about the axis.

- Try to solve the problem yourself, then watch the solution video:
- <https://youtu.be/anSmCuDUd3o>

Homework 2

2. A teeter-totter has a kid sitting on each side, 1.25 m from the hinge in the middle. The kid on the left has 40.0 kg of mass, and the kid on the right 60.0 kg. The teeter-totter is horizontal. Calculate the torque created by each kid, and the total torque.

- Try to solve the problem yourself, then watch the solution video:
- <https://youtu.be/l8q-T8P8BTE>



That's it!

