



Automation & Robotics Virtual Learning

7th & 8th Gear Ratios Day 3

April 24th, 2020

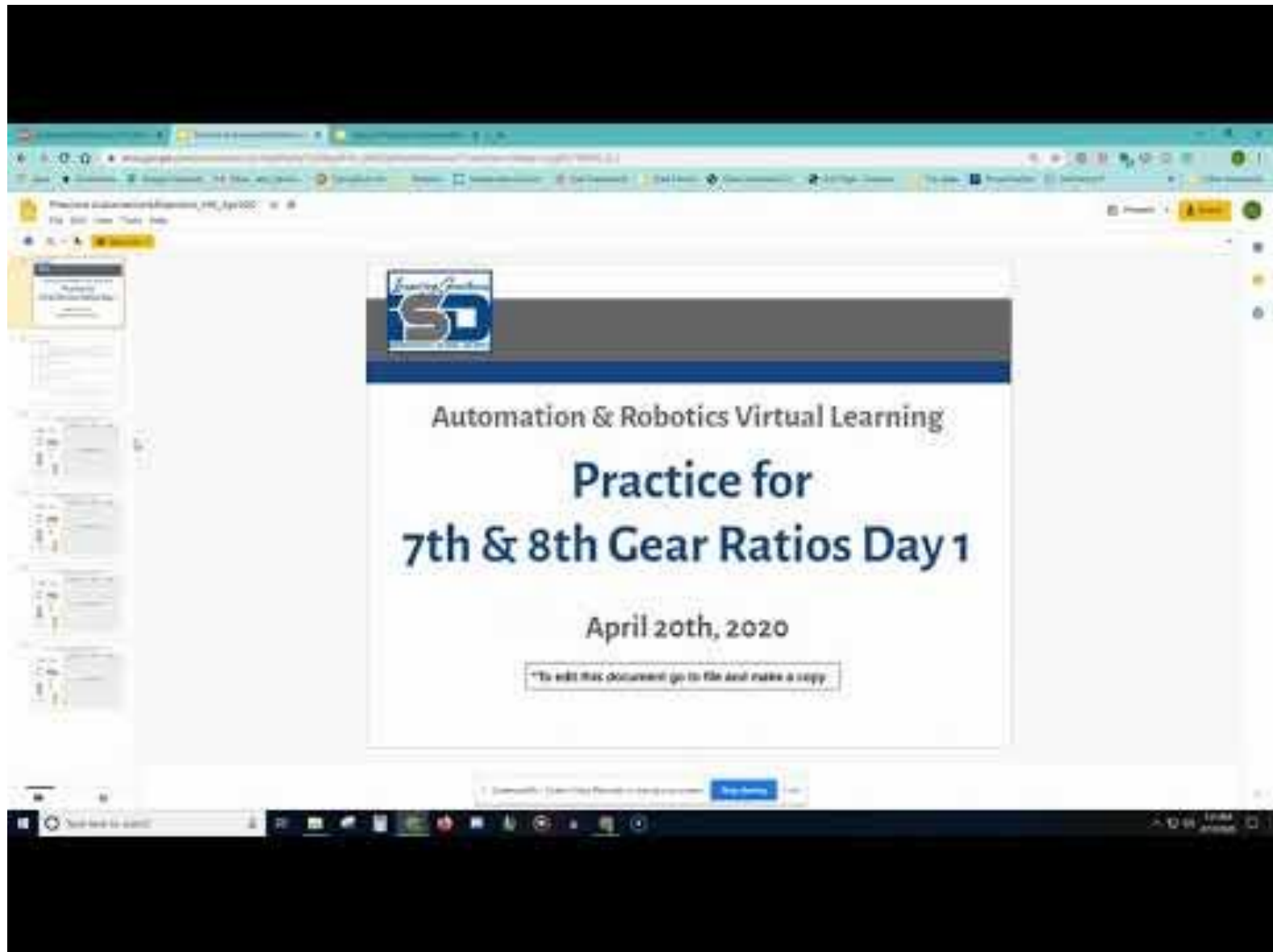


PLTW: Automation & Robotics
Lesson: Gear Ratios Day 3 [April 24th]

Objective/Learning Target:

Students will review their knowledge of gear ratios and demonstrate their understanding of how gear ratios affect speed and torque in a mechanism.

Instructions (same as Day 1)



Link to [video](#)

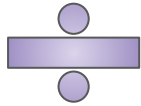
Warm-up

*To complete the Warm-up, practice, and questions electronically, click [here](#)

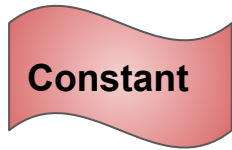
If you were given the simplified gear ratio like this 3:5.

What are some possible inputs and outputs for a gear ratio that would have a simplified ratio of 3 to 5? Give at least three.

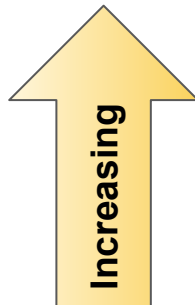
1.) What is the simplified gear ratio for 18:27 and what is happening to Speed and Torque?



Text
box



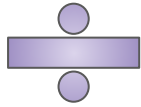
Solution
box



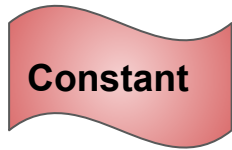
Input	Output	Speed	Torque

Show your work here:

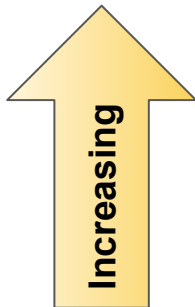
2.) What is the simplified gear ratio for 7:84 and what is happening to Speed and Torque?



Text
box



Solution
box

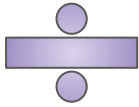


Input	Output

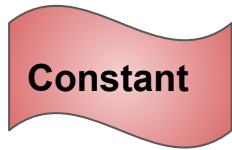
Speed	Torque

Show your work here:

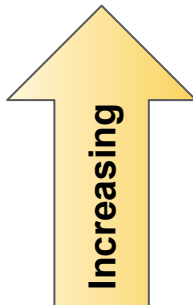
3.) What is the simplified gear ratio for 65:50 and what is happening to Speed and Torque?



Text
box



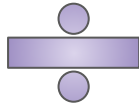
Solution
box



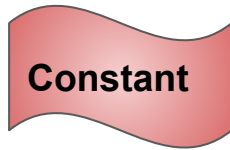
Input	Output	Speed	Torque

Show your work here:

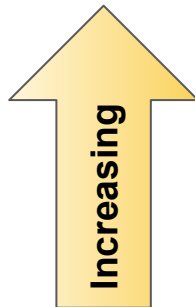
4.) What is the simplified gear ratio for 88:44 and what is happening to Speed and Torque?



Text
box



Solution
box



Input	Output	Speed	Torque

Show your work here:

Extend Your Learning

Give a family member the following gear ratio:

$25:15$

Ask them to simplify the ratio