



Automation & Robotics Virtual Learning

7th & 8th Gear Ratios Day 5

April 30th, 2020

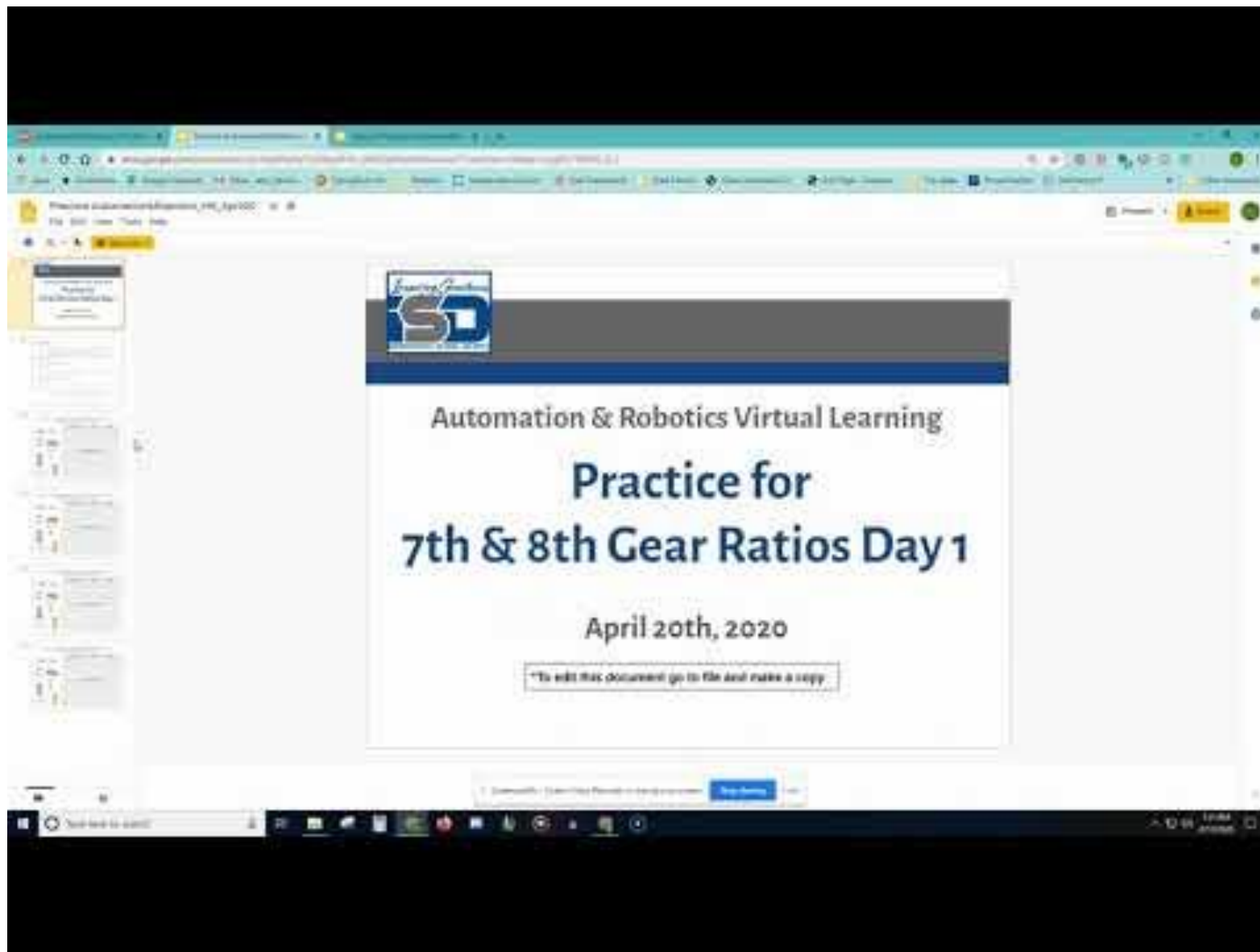


PLTW: Automation & Robotics
Lesson: Gear Ratios Day 5 [April 30th]

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](#)

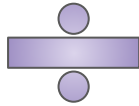
Today is our last day of Gear Ratio Practice.

Test your knowledge with this [Pop Quiz!](#)

On the next TWO slide you have been given the simplified gear ratio and the torque and speed. You must:

- Give the original Gear ratio
- Show the work

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



Text
box



Solution
box

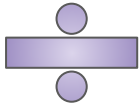
Input	Output

Speed	Torque
Constant	Constant

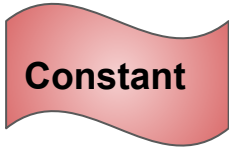
Show your work here:

1 : 1

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



Text
box



Solution
box

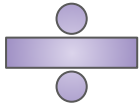
Input	Output

Speed	Torque

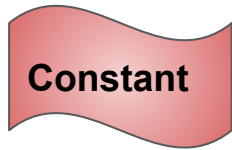
Show your work here:

1 : 2

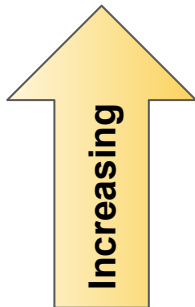
3.) What is the simplified gear ratio for 12:28 and what is happening to Speed and Torque?



Text
box



Solution
box

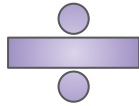


Input	Output

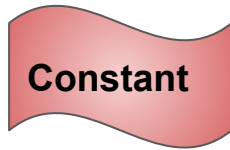
Speed	Torque

Show your work here:

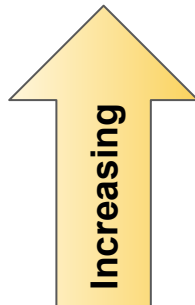
4.) What is the simplified gear ratio for 60:84 and what is happening to Speed and Torque?



Text
box



Solution
box



Input	Output	Speed	Torque

Show your work here:

Extend your learning

Come up with your own gear ratios and ask another person in your family to try and simplify them.

Then teach them what is happening to torque using the information from yesterday you taught them about speed.