

E14 Homework: Due Wednesday May 13, 2009



Note: Do not forget to turn in PreLab and PostLab on Monday May 11.

Note: Do not forget to turn in PostLab on Friday May 15.

Problem 5.2.33.

Note: Do a GUESS and CHECK.

- Guess the horizontal force exerted by the ground on the front wheel.
- Check your guess by doing a FBD on the front wheel and summing moments about the center of the wheel (if you are a good guesser, you should find the important number invented circa 1000 AD).

Problem: 5.2.42

Note: The force applied by the foot to the pedal is directed normal to the pedal (there is no force applied by the foot to the pedal perpendicular to the pedal).

Problem: 5.2.53

Note: Assume horizontal forces exerted by the pavement on the wheels are negligible.

Problem: 5.2.56

Note: Assume horizontal forces exerted by the floor on the child's hands are negligible.

Problem: 5.2.60

Note: Use the scale of the picture to approximate the distance between the elbow pivot point and the point where F_{muscle} is applied to the forearm as 3.5 inches

(the line connecting the two points that are 3.5 inches apart is horizontal).

Also, plotting is *optional*.

Problem 5.3.11

Note: The tension in the cables on either side of a frictionless pulley are equal.

Problem 5.4.10

Hint: Think about a system that makes this problem "relatively" easy to solve.

Last updated by Paul Mitiguy on May 8, 2009

