

Name _____
Honors Physics
Period _____

Date _____
Gravity and Circles WS #7H
Mrs. Nadworny

Torque

Directions – Read textbook pages 278 – 282. Solve the following problems using the GUESS method and correct significant figures. Be sure to show ALL work!

- Which of the following are means of maximizing the torque of a force applied to a rotating object?
 - Maximize the magnitude of the applied force.
 - Apply the force as close as possible to the axis of rotation.
 - Apply the force perpendicular to the displacement vector between the axis of rotation and the point of applied force.

(A) I only (B) II only (C) I and II only (D) I and III only (E) I, II, and III
- A force of 20 N is applied perpendicular to the end of a bar of length 0.5 m. Calculate the magnitude of the torque produced by the force.
- A child of mass 20. kg is located 2.5 m from the pivot point of a seesaw. Where must a child of mass 30. kg sit on the seesaw in order to provide balance?
- Three people wish to teeter totter at the park. The first person has a mass of 40.0 kilograms and sits 2.20 meters to the left of the pivot. The second person has a mass of 55.0 kilograms and sits 3.30 meters to the right of the pivot. The third person sits 2.70 meters to the left of the pivot. If the teeter totter balances perfectly, what is the mass of the third person?

Answers in size order: 1.7, 10, 34.6