Balanced torque practice 1 (8822782)

Due: Tue Mar 22 2016 08:00 AM PDT

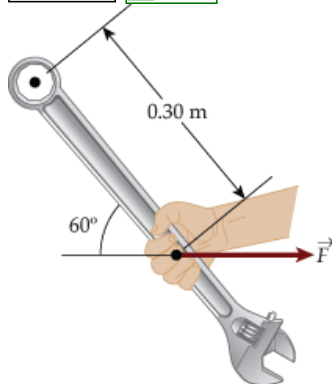| Question | 1 | 2 | 3 | 4 |

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1.   Question Details   OSColPhys1 9.P.001.WA. [2611468]

A mechanic changing the spark plugs in a car notes that the instruction manual calls for a torque with a magnitude of 11 N · m. If the mechanic grasps the wrench as shown in the figure below, determine the magnitude of the force she must exert on the wrench.

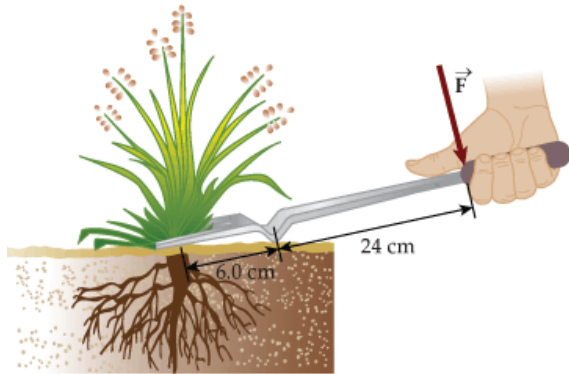[   ] 🔑 42.3 N

Supporting Materials

Physical Constants

Additional Materials

Reading

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2.   Question Details   OSColPhys1 9.P.005.WA. [2611666]

A gardener is using a tool as shown in the figure to pull weeds. You will notice that the tool is designed with a built in pivot point about which the torques are applied. If the gardener applies a 1.53-N · m torque (about the pivot point) in order to pull a weed, determine the resistive force the weed exerts on the weed puller.

| | 🔑 25.5 | N

Supporting Materials

Physical Constants

Additional Materials

Reading

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3.   Question Details   OSColPhys1 9.P.025.WA. [2611501]

A person is standing on a section of uniform scaffolding as shown in the figure. The section of scaffolding is $L = 1.50$ m in length, has a $m_s = 32.0$ kg mass and is supported by three ropes as shown. Determine the magnitude of the tension in each rope when a person with a weight of $W_p = 720$ N is a distance $d = 0.700$ m from the left end.

magnitude of $\vec{T}_1$ [_____] 🔑 767 N

magnitude of $\vec{T}_2$ [_____] 🔑 541 N

magnitude of $\vec{T}_3$ [_____] 🔑 587 N
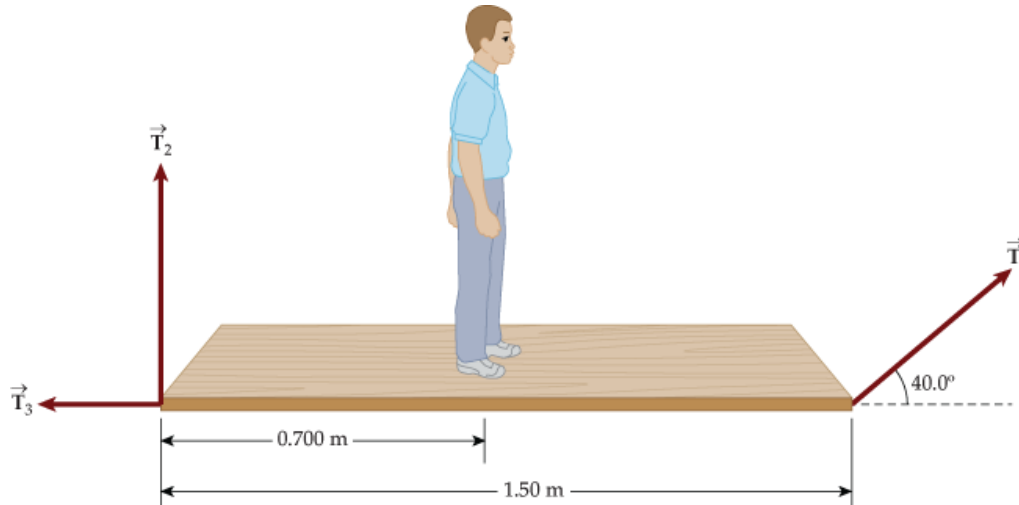
Supporting Materials

   Physical Constants

Additional Materials

   Reading

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4.   Question Details   OSColPhys1 9.P.041.WA. [2611849]

You hold a 1.80-N softball in your hand as shown in the figure. Consider your forearm and hand to be a uniform rod with a mass of 1.70 kg and the distance between the elbow joint and the ball in your hand is $2L = 25.5$ cm. Your biceps exerts an upward force of 12.0 N on the forearm and is attached at a distance of $d = 4.00$ cm from the elbow.
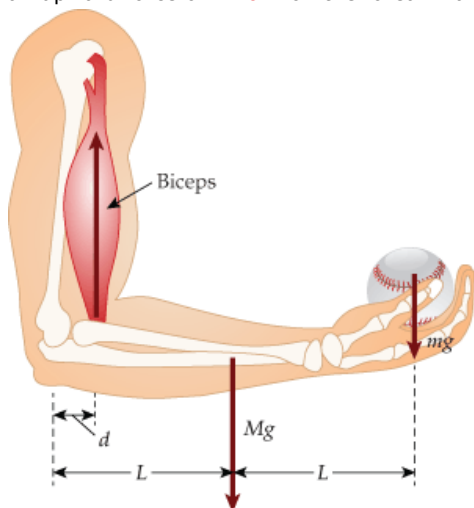
(a) Using the elbow joint as the axis of rotation, determine the magnitude of the net torque acting about the elbow due to the forearm, hand, and ball.

[   ] 🔑 2.1 N · m

(b) In which direction will the forearm and hand rotate, if the net torque obtained in part (a) is nonzero?

○   counterclockwise

○   🔑 clockwise

○   no rotation

Supporting Materials

Physical Constants

Additional Materials

Reading

Assignment Details

Name (AID): **Balanced torque practice 1 (8822782)**   **Feedback Settings**
Submissions Allowed: **10**   Before due date
Category: **Homework**   Question Score
Code: Assignment Score
Locked: **Yes**   Publish Essay Scores
Author: **Steinkamp, Alex (** asteinkamp@osd.wednet.edu **)** Question Part Score
Last Saved: **Mar 17, 2016 10:23 PM PDT**   Mark
Group: **AP Phys 1**   Add Practice Button
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Which graded: **Last**   Response
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