1. Torque Concepts

name:

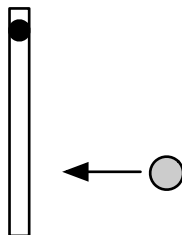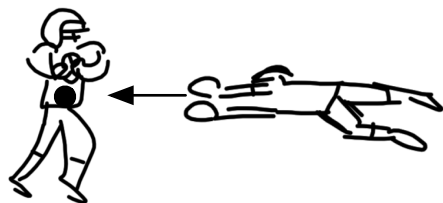1. Determine whether the torque will be Clockwise, Counterclockwise or Zero. The pivot is marked with a dot.

A 100°

B 180°

C 45°

D 0°

E 90°
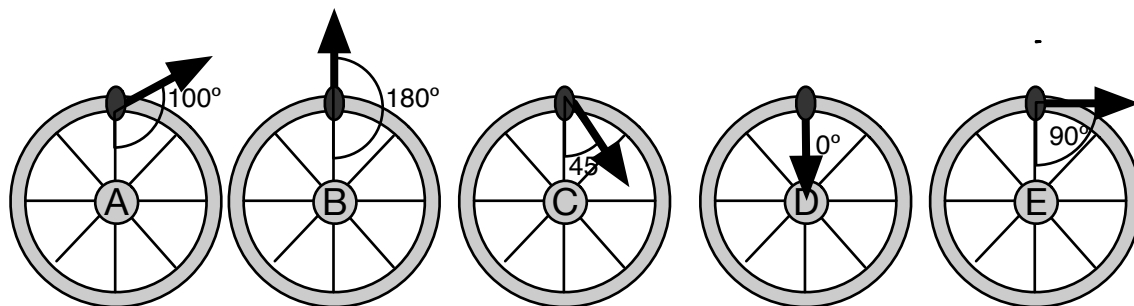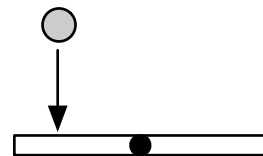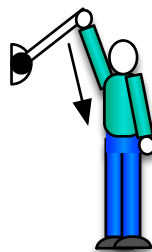
2. An identical force is applied to each tire, but at the angles shown. Rank them from 1 = most torque to 5 = least torque.

3. The helicopter propeller is spinning counterclockwise as shown. Must the rear propeller push air to the right or left to keep the helicopter from rotating?
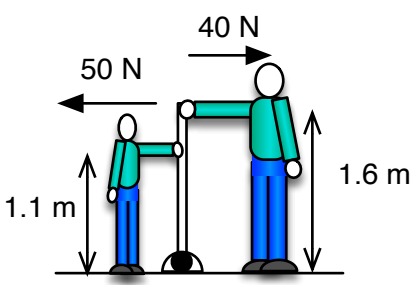

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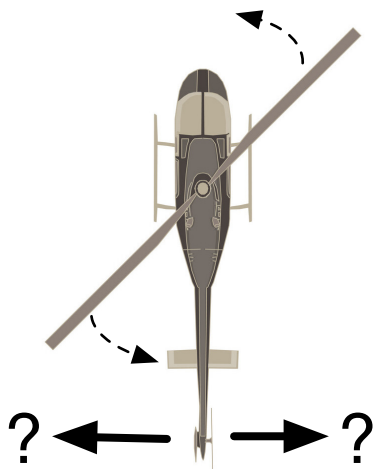
4. The tightrope walker rotates her arms as shown. Was she falling clockwise or counterclockwise?
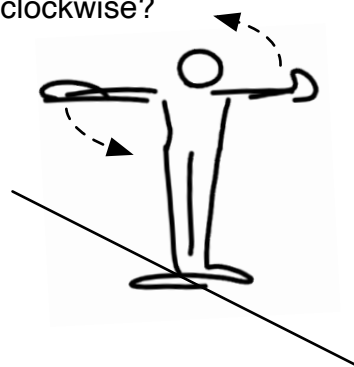
5. Calculate the torque & direction in each case. Assume the force is perpendicular to the radius.
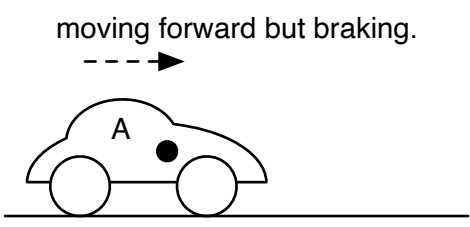
0.8 m

20 N

40 N

1.2 m

0.25 m

200 N

5 N

(yo yo)

0.01 m
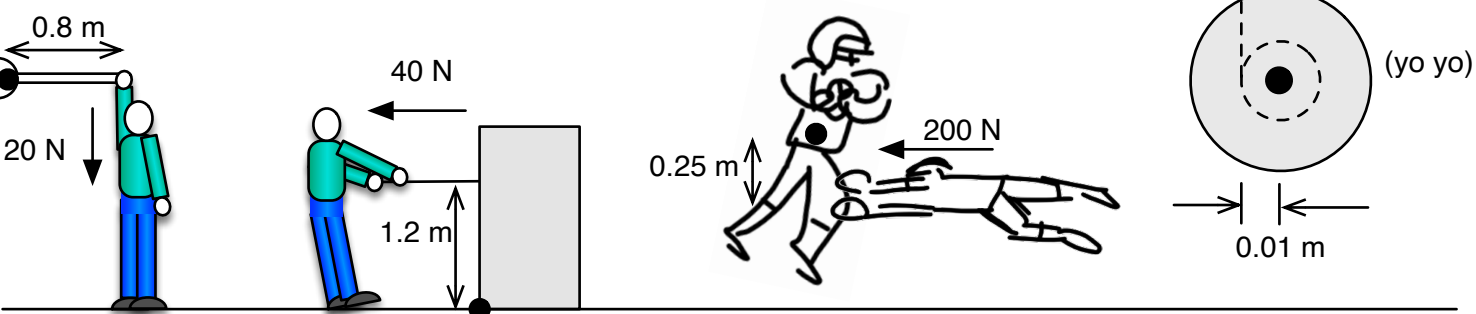
6. There is a fight over the lever. Calculate the Net Torque and its direction.
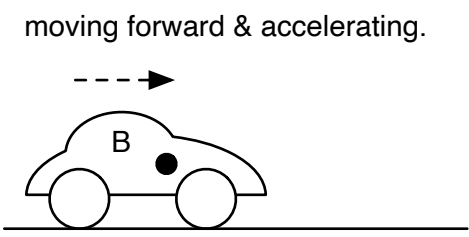
40 N

50 N

1.6 m

1.1 m

7. Torque is proportional to distance from the pivot and proportional to the force. How far from the pivot should the bigger kid sit so that the see-sawing can be equal?

I weigh 500 N

I weigh 800 N

2 m
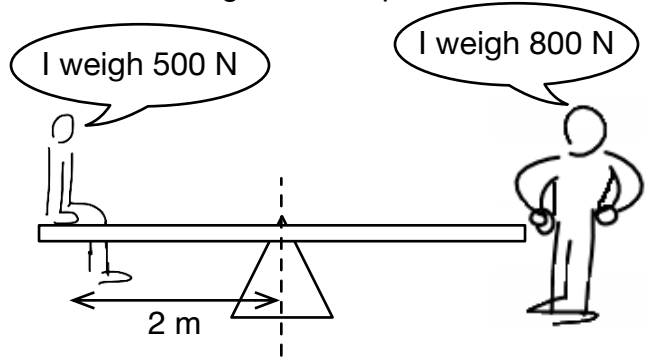
8. Car A is braking. Car B is hitting the gas.
a) Place arrows at the appropriate locations to show where and which way friction would act in each case.
b) Mark the appropriate box.

moving forward but braking.

A

moving forward & accelerating.

B

☐ car tends to go nose-up.
☐ car tends to go nose-down.

☐ car tends to go nose-up.
☐ car tends to go nose-down.