

Reflection and Self-Assessment**Completion:** Circle the statement that best describes the completion of this practice.

- I completed every question on the practice.
- I did not complete some questions on the practice because:

Answer Checking: Circle the statement that best describes how you checked your answers

- I checked all my answers against the key at the back and corrected any that were incorrect.
- I did not check all my answers and correct any mistakes because:

Online Worked Solution: Circle the statement that best describes how you used the online worked solutions.

- I did not use the online worked solution at all.
- I used the online solution to understand some questions I got incorrect.
- I used the online solution to help me learn how to answer some questions.

Confidence: Circle the statement that best describes your confidence in answering questions of this type in the future.

- I am confident I can answer nearly any question of this type correctly without using notes or other assistance.
- I am confident I can answer **MOST** questions of this type correctly without using notes or other assistance.
- I am **NOT** confident I can answer most questions of this type correctly without using notes or other assistance.

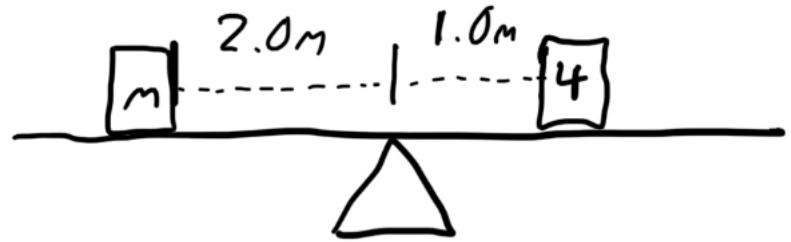
Time: Circle the statement below that best describes the total amount of time you spent actively working on this practice:

Less than an hour	Between one and two hours	Between two and three hours	Between three and four hours	More than four hours
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Rotational Equilibrium Practice

Name: _____

4. A see-saw is balanced with a 4.0 kg mass 1.0m from the pivot and another object 2.0 m from the pivot on the other side. What is the mass of the second object?

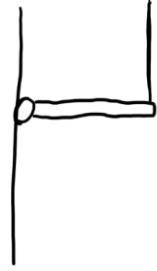


5. A see-saw has a 46 kg mass located 63 cm from the pivot, how far from the pivot should a 65 kg mass be placed so that the see-saw balances.

Rotational Equilibrium Practice

Name: _____

6. A 3.0 m long beam has mass of 12 kg and is supported by a hinge connected to a wall and a string hanging from the ceiling.
- a. What is the tension in the string?

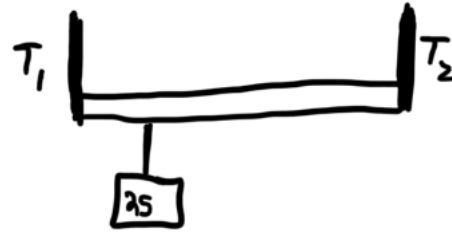


- b. What support force is provided by the hinge?

Rotational Equilibrium Practice

Name: _____

7. A 2.0 m long beam of mass 12 kg has a 25.0 kg mass suspended from it 0.30 m from the left side. What is the tension in each of the support ropes?



8. A 25 m long bridge deck weighs 4500 kg, and has supports at either end. An 1800 kg elephant is standing 5.0 m from one side. What supporting force is provided by each support?

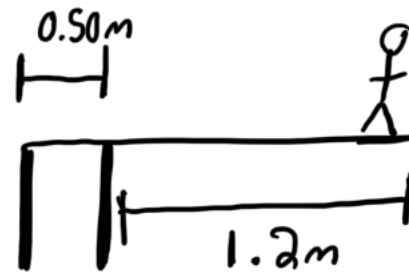
9. A 5.0-meter-long plank of wood weighing 20.0 kg is being used as a bridge, there is a support on either side. A 65 kg woman walks across the bridge. What is the greatest force the each of the supports must provide during her walk across the bridge?



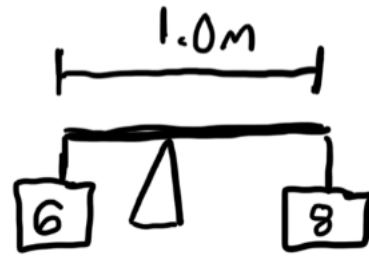
Rotational Equilibrium Practice

Name: _____

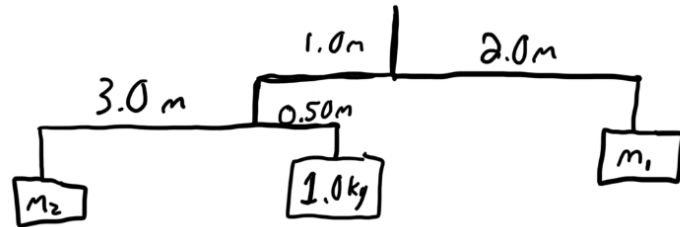
10. A diving board of negligible mass is supported by two supports as shown. A 56 kg diver stands on the end. What is the force each support provides to the board and in what direction does that force act?



11. A 1.0 metre long board of negligible mass has a 6.0 kg mass at one end and an 8.0 kg mass at the other. Where should the pivot be placed so the board balances?



12. A mobile is hung as shown, the rods connecting the masses have negligible mass. If it is in equilibrium what are the values of m_1 and m_2 ?



Answer Key				
1) 55 N	2) 28 Nm	3) 23 N	4) 2.0 kg	5) 45 cm
6a) 59 N	6b) 59 N	7) 96 N and 270 N	8) $F_1 = 3.6 \times 10^4$ N $F_2 = 2.6 \times 10^4$ N	9) 740 N
10) The far left applies 1300 N down on the board The second applies 1900 N up on the board	11) 0.57m from the 6 kg mass	12) $m_1 = 0.58$ kg $m_2 = 0.17$ kg		