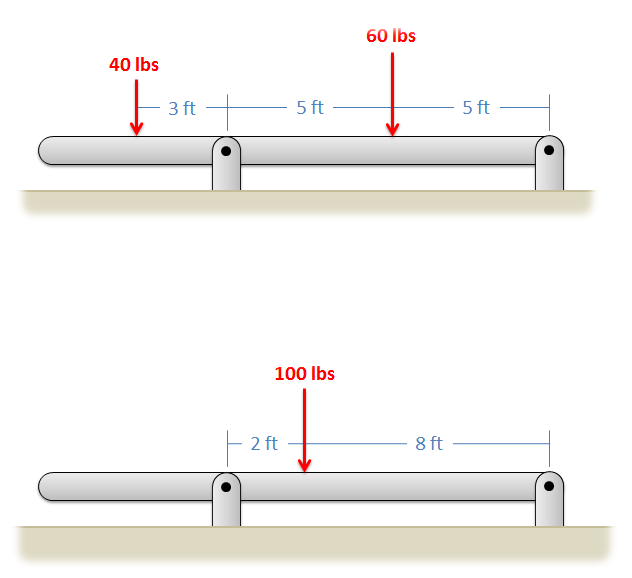
Chapter 4 Homework Problems

Problem 4.1

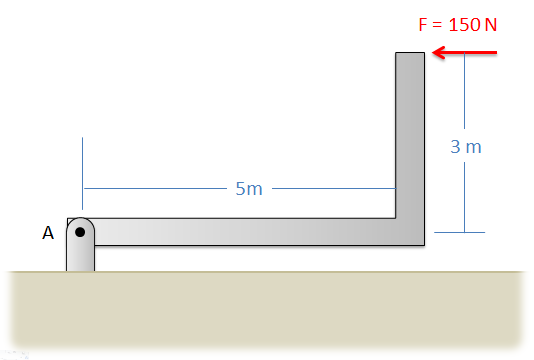
Determine if the two setups below are statically equivalent.



Solution: No, they are not equivalent.

Problem 4.2

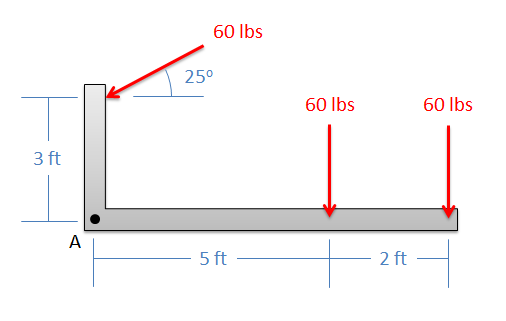
Resolve the force shown below into a force and a couple acting at point A. Draw this force and couple on a diagram of the L shaped beam.



Solution: FA = 150 N to the left, MA = 450 Nm

Problem 4.3

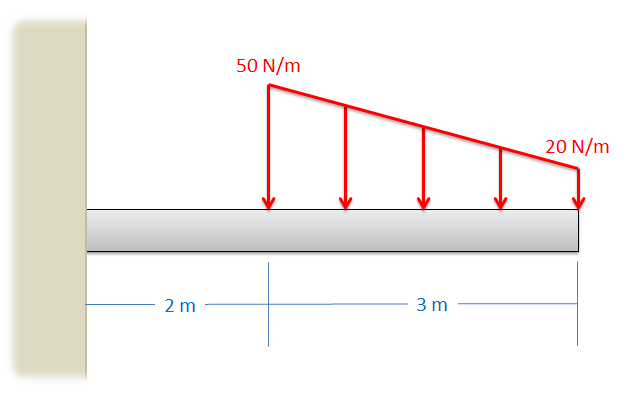
Find the equivalent force couple system acting at A for the setup shown below. Draw this force and couple on a diagram of the L shaped beam.



Solution: FA = 155.2 lbs 69.5o below the negative x axis, MA = -556.9 ft lbs

Problem 4.4

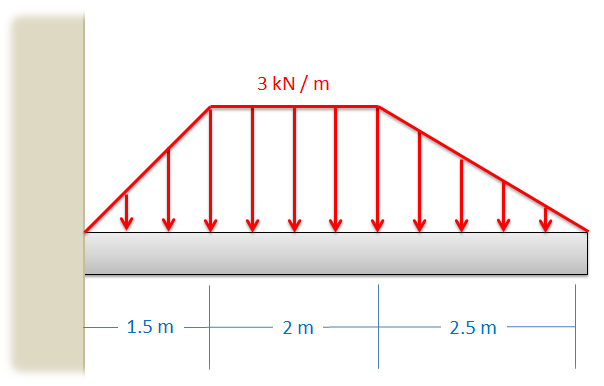
Determine the equivalent point load (magnitude and location) for the distributed force shown below using integration.



Solution: Feq = 105 N, xeq = 3.29 m

Problem 4.5

Use the method of composite parts to determine the magnitude and location of the equivalent point load for the distributed force shown below.



Solution: Feq = 12 kN, xeq = 2.79 m