In each of these 3 figures, a 4 meter long beam carries a distributed load of $\omega(x) = 150x$ where $x$ is the distance, in meters, from the left end of the beam.

Answer the following question for each figure:

1. In each figure, notice the location of the origin. Is it always in the same location?

2. In each figure, notice the location of the pivot point. Is it always in the same location?

3. In each figure, draw arrows between a typical slice and the pivot, and label it with the distance between the two.

4. In each figure, does the force on the typical slice drawn create a positive or negative moment?
5. (Advanced) In question 1, you saw that the origin was always on the left end of the beam. If you wanted the origin to be the right end of the beam, while maintaining the same distributed load, what would have to change?