

## Special Problem 5: Falling Chain

A chain of uniform mass per unit length, with total length  $l$ , is loosely coiled on a table at height  $l$  above the floor. It starts to fall through a hole in the table.

- a. How long does it take before the chain first touches the floor? (6)
- b. How long does it take before the whole chain has reached the floor? (4)