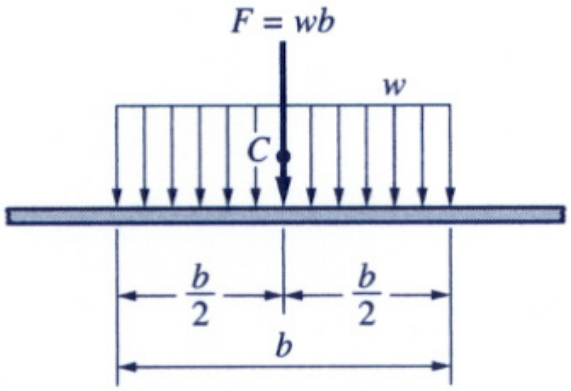
2-11
Resultant of Distributed Line Loads

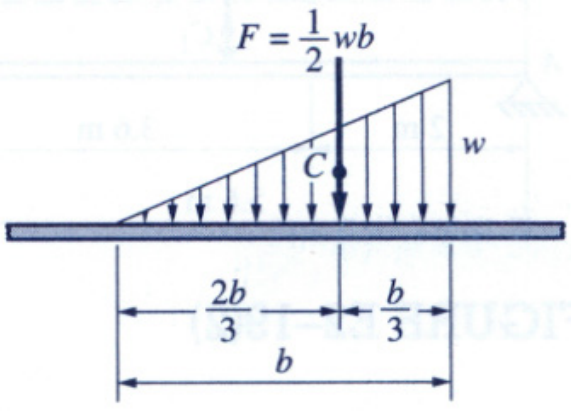
**Distributed Load**
A distributed load occurs whenever the load applied to a body is not concentrated at a point. A distributed load could be exerted along a line, over an area, or throughout an entire solid body.

**Load Intensity**
A distributed load along a line is characterized by a load intensity expressed as force per unit length.
Units:
U.S. lb/ft
S.I. N/m or kN/m

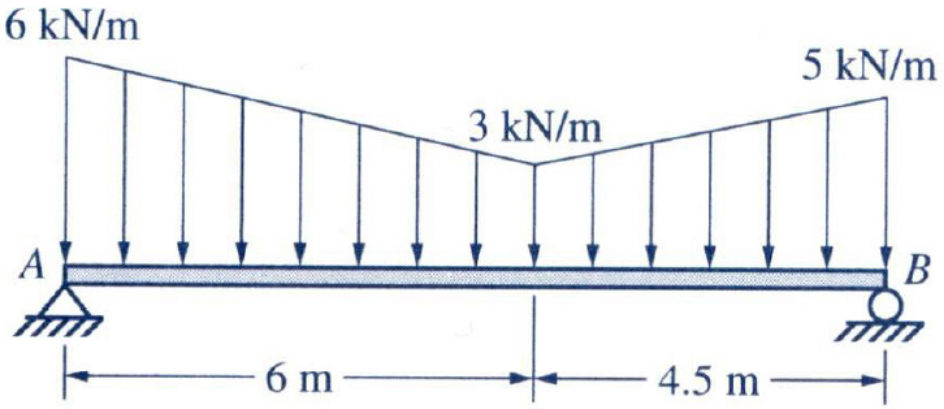
**Uniform Load**
A distributed load with constant load intensity w is called a uniform load.




**Triangular Load**
A triangular load is a distributed load whose intensity varies linearly from zero to a maximum intensity w.



Example 7: Replace the loading on the beam with an equivalent resultant force and specify its location with respect to point A.




Solution.