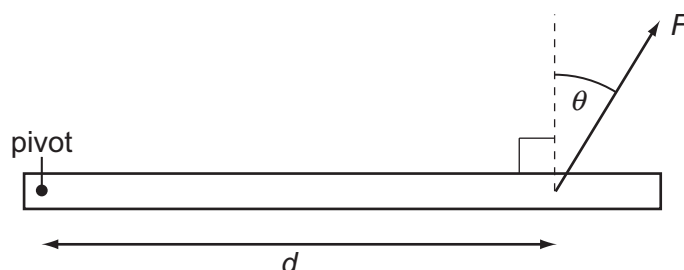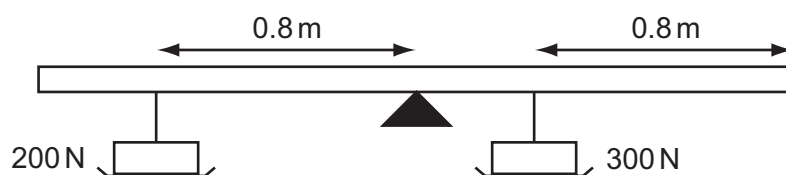**14** A force F is applied to a beam at a distance d from a pivot. The force acts at an angle θ to a line perpendicular to the beam.

Which combination will cause the largest turning effect about the pivot?

	F	d	θ
A	large	large	large
B	large	large	small
C	small	small	large
D	small	large	small

15 A rigid uniform bar of length 2.4 m is pivoted horizontally at its mid-point.

Weights are hung from two points of the bar as shown in the diagram. To maintain horizontal equilibrium, a couple is applied to the bar.

What is the torque and direction of this couple?

A 40 N m clockwise

B 40 N m anticlockwise

C 80 N m clockwise

D 80 N m anticlockwise

16 What is the internal energy of an object?

A It is the energy associated with the object's movement through space.

B It is the energy associated with the random movement of the molecules in the object.

C It is the energy due to the attractions between the molecules within the object.

D It is the sum of all the microscopic potential and kinetic energies of the molecules.