2 Domestic washing machines often incorporate washing, rinsing, spinning and drying of clothes. This question is about the spin-dry function of a washing machine.

(a) The inner drum of the machine into which the clothes are placed has quite large holes in it.

Explain how, when the clothes are being spin-dried, the water gets out from the clothes and through the holes.

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(b) One of the spin speeds in one model of washing machine was listed as 1000 rpm (revolutions per minute).

Calculate the largest resultant force that could be exerted on a wet jacket of mass 0.500 kg given that the radius of the spinning drum is 12.5 cm.

largest resultant force = …….. N [3]

(c) If clothes are unevenly distributed in a washing machine, it vibrates slightly as it rotates.

The drums of a washing machine are suspended from the casing by springs, at the top and bottom, as shown in Fig. 2.1.

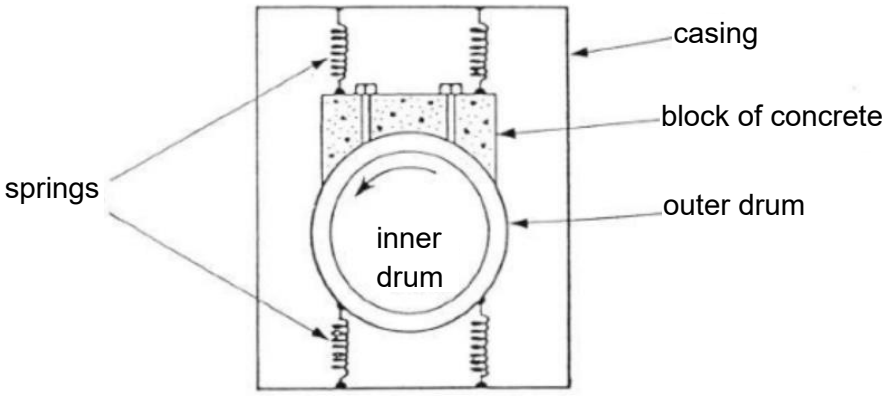

Fig. 2.1

Suggest and explain the purpose of these springs.

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