A crane is used to raise a block of mass 600 kg vertically upwards at a constant speed through a height of 15 m. There is a resistance to the motion of the block, which the crane does 10 000 J of work to overcome.

(a) Find the total work done by the crane. [2]

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(b) Given that the average power exerted by the crane is 12.5 kW, find the total time for which the block is in motion. [2]

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