Answer 1

(3 marks)

A solar hot water system collects solar energy at the rate of 800 J s^{-1}. It needs 1.68×10^7 J of energy to heat the water it contains. Calculate how many hours it would take to heat this water. Ignore any heat lost to the surroundings.

Description	Marks
$P = \frac{\Delta E}{t}$	1
$t = \frac{\Delta E}{P} = \frac{1.68 \times 10^7}{800} = 2.10 \times 10^4$ s	1
= 5.83 h	1
	Total 3