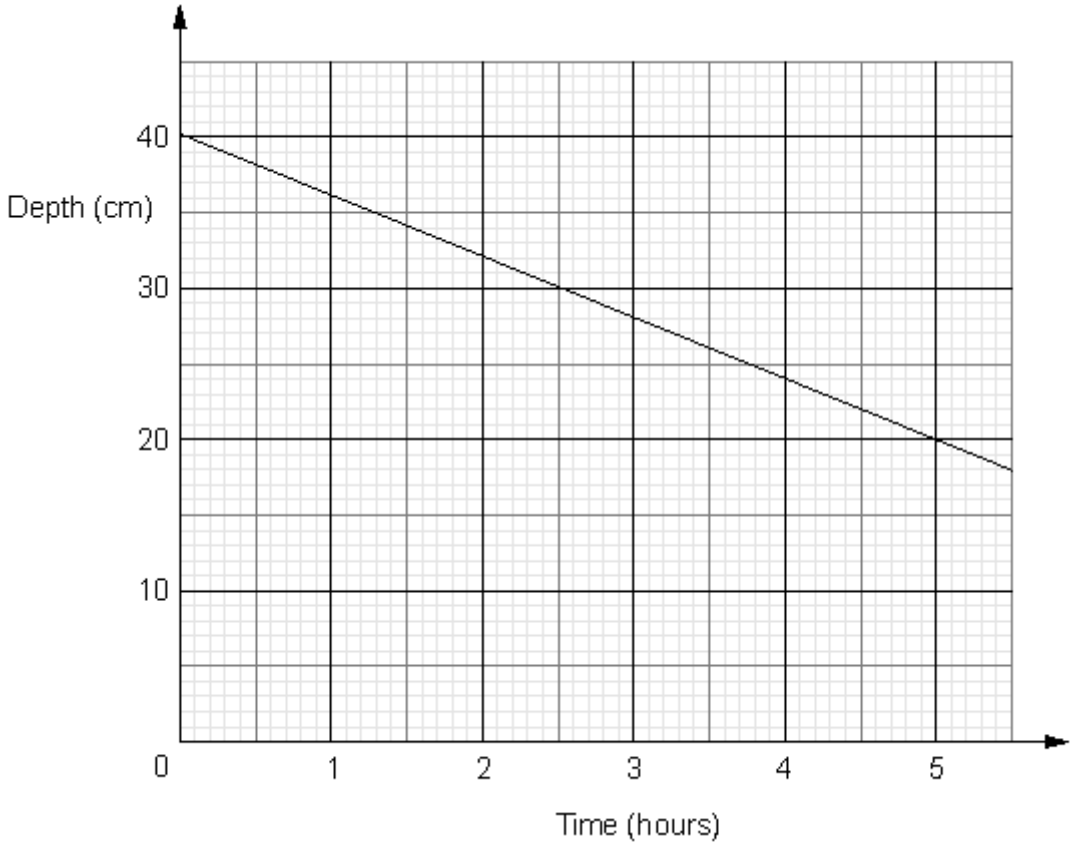
Q1. Water flows out of a cylindrical tank at a constant rate.
The graph shows how the depth of water in the tank varies with time.



(a) Work out the gradient of the straight line.

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(2)

(b) Write down a practical interpretation of the value you worked out in part (a).

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(1)
(Total 3 marks)

M1.

	Answer	Mark	Additional Guidance
(a)	– 4	2	**M1** for 'difference in y' / 'difference in x' or 4 seen **A1** for – 4 SC If no marks scored allow B1 for $y = 40 - 4x$, $y = -4x$, $40 - 4x$ or $-4x$
(b)	Practical interpretation	1	**B1** ft for depth decreases by "4" cm each hour oe or enables you to work out that the tank will be empty in 10 hours
			Total for Question: 3 marks

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Many candidates drew a triangle on the line but very few were able to use it to obtain a fully correct answer to part (a) of this question. Common errors included counting squares without reference to the scales on the axes of the graph, working out “difference in *y*” × “difference in *x*”, working out“ difference in *x*” ÷ “difference in *y*” and omitting the negative sign. Very few candidates were able to provide an answer worthy of credit in part (b) of the question, often because they did not use “the value” they gave in response to part (a).

A significant proportion of candidates did not attempt this part of the question. Those that did usually tried to describe the process they used to calculate the gradient rather than use the context of the question.