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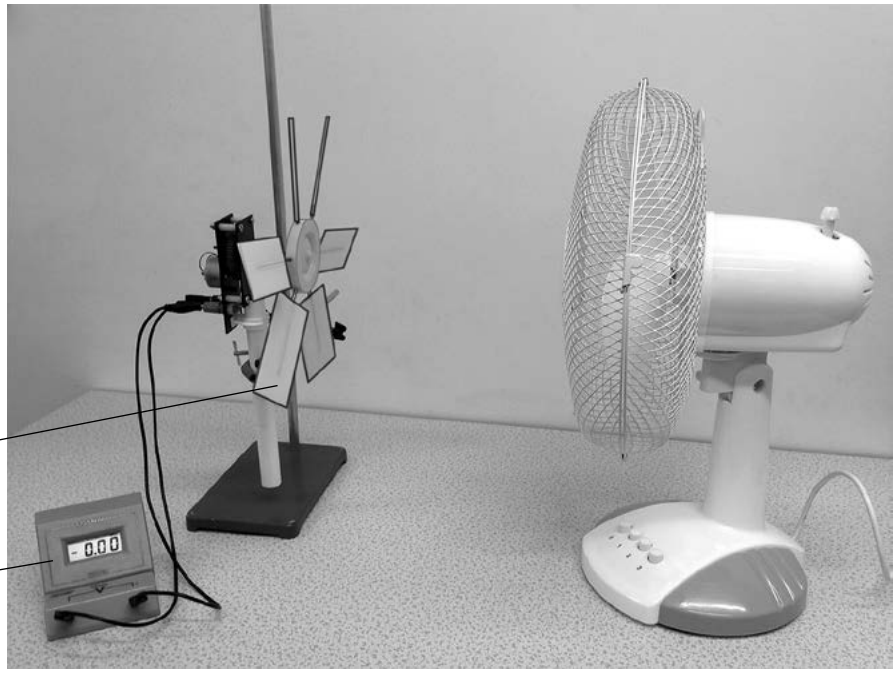
6 A student investigates a wind turbine.

The student places an electric fan in front of the wind turbine.

The wind turbine is connected to a voltmeter.

When the wind turbine turns, it generates a voltage.



(a) The student decides to investigate how the angle of the blades of the wind turbine affects the voltage it generates.

State **two** control variables for this investigation.

(2)

1 .....

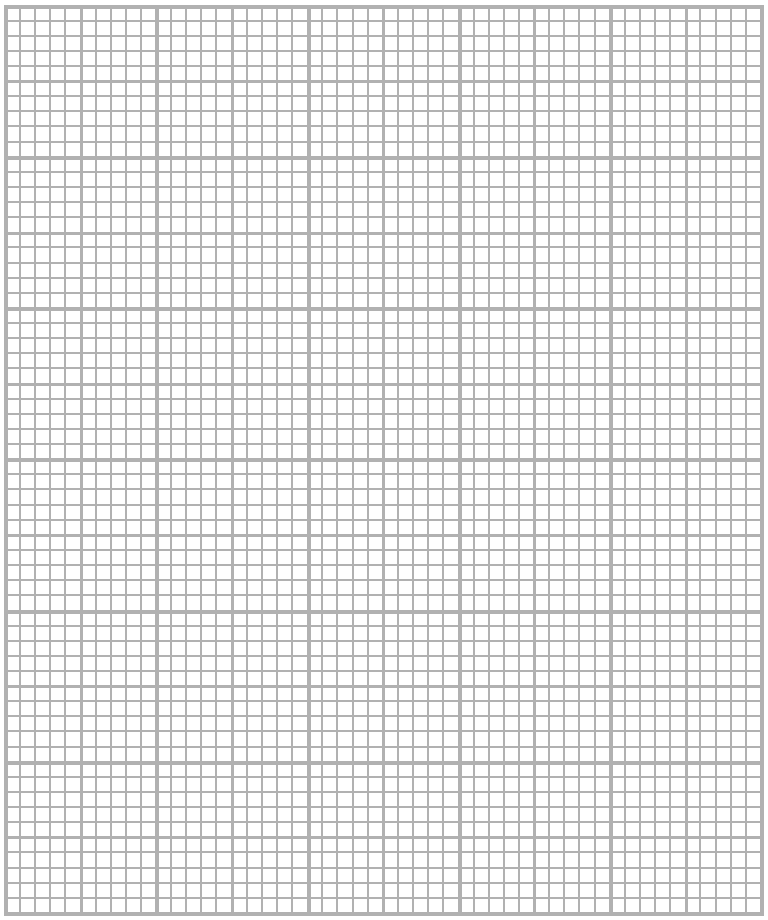
2 .....

(b) The student obtains the following results.

Blade angle / degree	Voltage / V
0	0.0
10	2.0
20	2.2
30	2.0
40	1.7
50	1.4
60	1.0
70	0.6
80	0.2
90	0.0

(i) Plot the student's results on the grid.

(3)



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(ii) Draw a curve of best fit on the graph.

(2)

(iii) Describe the relationship between the blade angle and the voltage.

(2)

(c) The student decides to change the investigation to see how the voltage is affected by the number of blades.

(i) State the type of graph the student should use to display the results.

(1)

(ii) Justify your choice of graph.

(1)

(Total for Question 6 = 11 marks)

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