

- 8 A programmer is designing an algorithm to calculate the cost of a length of rope. The program requirements are:
- input two values: the length of rope in metres `Length` and the cost of one metre `Cost`
 - perform a validation check on the length to ensure that the value is between 0.5 and 6.0 inclusive
 - calculate the price `Price`
 - output the price rounded to two decimal places.

Use the variable names given.

- (a) State the name of the validation check.

..... [1]

- (b) Complete the flowchart for this algorithm.



[6]

- (c) Give **two** different sets of test data for this algorithm and state the purpose of each set.

Set 1

Purpose

.....

Set 2

Purpose

.....

[4]

- (d) Complete the headings for the trace table to show a dry-run for this algorithm. You do **not** need to trace the algorithm.

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[3]

- (e) Describe an improvement that should be made to the requirements for this algorithm.

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[2]