

Answers **all** questions in the spaces provided.

- 1 A student wishes to calibrate his 3D printer. His 3D printer ejects and deposits molten plastic material to form a physical object based on a digitally designed model. He prints multiple copies of a cube designed to have length of 2.0 cm.

Using a well-calibrated vernier caliper, he measures the length along each side of a cube.

- (a) With reference to the precision of the vernier calipers and the required lengths of each cube, explain how he can check whether the length of one particular printed cube is accurate.

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- (b) Explain how he can check whether the length of his various printed cubes is precise.

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