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(i) Which **two** variables should the student keep constant?

Tick (✓) **two** boxes.

Amount of water in the trough

Concentration of acid

Mass of marble chips

Size of marble chips

Volume of measuring cylinder

(2)

(ii) Explain, in terms of particles and collisions, the effect that increasing the surface area of the marble chips has on the rate of reaction.

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(2)

(c) Calcium carbonate is a catalyst for the industrial production of biodiesel.

Give **one** reason why using a catalyst reduces costs.

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(1)

(Total 8 marks)