

2 The phenotype of an organism is affected by its genotype and its environment.

(a) The table below shows the mean difference in two phenotypes, height and mass, from a study on several human identical twins and non-identical twins. Each pair of twins was brought up together.

Phenotype	Type of twins	
	Identical	Non-identical
Mean height difference / cm	1.7	4.4
Mean mass difference / kg	1.9	4.6

Explain how the data in the table show the effects that genotype and the environment have on the phenotypes.

(3)

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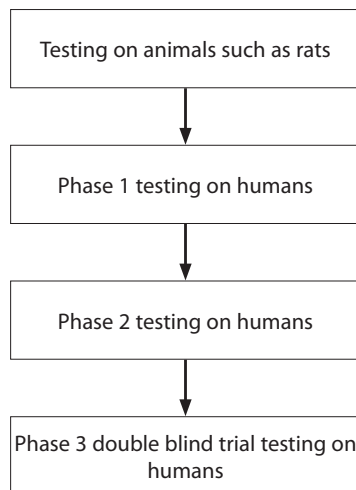
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(b) When a drug is being developed, it goes through a series of different test stages. Some of these are shown below.



(i) Suggest why a drug can be tested on rats before testing on humans.

(2)

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(ii) State what is done during each of the following phases of testing on humans.

(3)

Phase 1

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Phase 2

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(Total for Question 2 = 8 marks)

