

Question Number	Answer	Additional guidance	Mark
2(a)	1. idea of more than one gene for a single characteristic ; 2. at different loci / eq ; 3. idea of giving rise to continuous variation ;	1. IGNORE alleles ACCEPT 'a phenotype' if specific	(2)

Question Number	Answer	Additional guidance	Mark
2(b)	1. malnutrition / lack of { nutrients / a named nutrient e.g. protein, calcium / eq } ; 2. idea of nutrient required for specified growth e.g. muscle, bone ; 3. idea of other relevant environmental factor that affects expression of genotype for height e.g. health ; 4. idea of an environmental factor determining achievement of (genetic) potential ;	1. ACCEPT deficiency 3. ACCEPT disease	(3)

Question Number	Answer	Additional guidance	Mark												
2(c)(i)	<div>1. increased for { all / both Northern and Southern } Europeans / eq ;</div> <div>2. greater increase for Southern Europeans than Northern Europeans / faster rate of increase for Southern Europeans ;</div> <div>3. idea of greatest increase for Southern Europeans from 1970 to 1975 ;</div> <div>4. idea of fall in height for Northern Europeans between 1970 and 1975 ;</div> <div>5. manipulation of data to either show the increase of both or to show that the increase was greater for Southern Europeans than Northern Europeans ;</div>	<div>1. ACCEPT separate comments for North and South</div> <div>2. ACCEPT converse</div> <div>Mp2 can also gain Mp1 if height referred to</div> <div>5. ACCEPT as mm</div> <table><tr><td></td><td>Increase</td><td>increase as %</td></tr><tr><td>Southern</td><td>4.3 - 4.4 cm</td><td>2.5-2.6%</td></tr><tr><td>Northern</td><td>2.3cm</td><td>1.29 or 1.3%</td></tr><tr><td>Difference between N and S Europeans</td><td>2 / 2.1 cm more for SE</td><td></td></tr></table>		Increase	increase as %	Southern	4.3 - 4.4 cm	2.5-2.6%	Northern	2.3cm	1.29 or 1.3%	Difference between N and S Europeans	2 / 2.1 cm more for SE		(3)
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2(c)(ii)	<ol style="list-style-type: none"> 1. idea of change in diet or differences in diets between Northern and Southern Europeans ; 2. difference in diet described, eg more protein ; 3. idea of improved health care or better sanitation ; 4. less effects of disease on growth / eq ; 5. differences due to migration / eq ; 6. idea of changes to gene pool as a result of migration ; 	4. ACCEPT idea of vaccinations	(2)