

**AQA, OCR, Edexcel**

**A Level**

# **A Level Biology**

Energy and Ecosystems

Answers

Name:

**M**

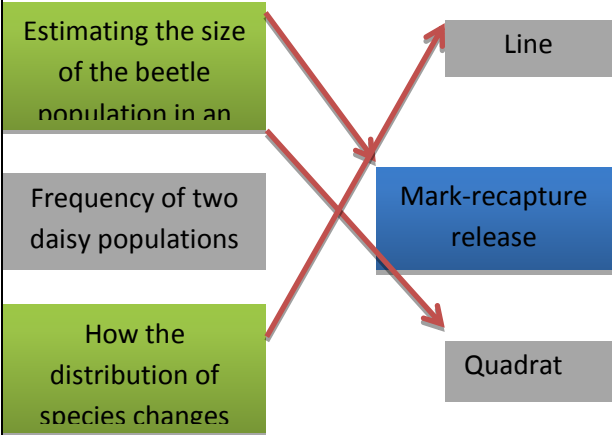
**M**

**E**

Mathsmadeeasy.co.uk

Total Marks: /28



<p>2.</p> <p>a)</p> <p>i) - Light is the wrong wavelength/ photosynthesis is occurring at a maximum rate/another factor is limiting the rate of photosynthesis/Light misses chlorophyll molecule</p> <p>ii)</p> <p>Respiration/movement/generation of body heat/excretion</p> <p>b)</p> <p>i) GPP - chemical energy store in biomass NPP - chemical energy store in biomass after respiratory losses NPP = GPP - R (respiratory losses)</p> <p>ii) GPP = 24,000 kJm<sup>-2</sup>yr<sup>-1</sup> NPP = 7,000 kJm<sup>-2</sup>yr<sup>-1</sup> % efficiency = 23.3%</p>	<p>1 mark</p> <p>2 marks</p> <p>3 marks</p> <p>3 marks</p>
<p>3.</p> <p>a)</p> <p>i) Temperature/pH/light intensity/oxygen level/air humidity/moisture content /carbon dioxide leve</p> <p>ii)</p> 	<p>3 marks</p> <p>2 marks</p>

<ul style="list-style-type: none"><li>- marked individuals have enough time to mix with the population</li><li>- marking has not affected chance of survival/predation.</li><li>- Changes in population as a result of births/deaths/migration are negligible</li><li>-Markings are still visible upon recapture.</li></ul>	<p>3 marks</p>
<p>iv) Line transect counts anything touching the line Belt transect counts anything between two lines of the transect</p>	<p>2 marks</p>
<p>v) Divide the area up into a grid and then randomly calculate coordinates at which to lay the quadrat down and measure/ random number generator to select coordinates.</p>	<p>2 marks</p>