

Question	Scheme	Marks	AOs
13(a)	$R = aM^b \Rightarrow \log_{10} R = \log_{10} a + \log_{10} M^b$	M1	2.1
	$\Rightarrow \log_{10} R = \log_{10} a + b \log_{10} M^*$	A1*	1.1b
		(2)	
(b)	$b = 0.636$	B1	2.2a
	$1.2 = "0.636" \times 0.7 + \log_{10} a \Rightarrow a = 10^{0.754}$ or $1.9 = "0.636" \times 1.8 + \log_{10} a \Rightarrow a = 10^{0.755}$	M1	3.1a
	$R = 5.68M^{0.636}$	A1	3.3
		(3)	
(c)	The resting metabolic rate for a mammal of mass 1 g	B1	3.2a
		(1)	

(6 marks)**Notes****(a)**

M1: Takes logs of both sides and shows the addition law

A1*: Uses the power law to obtain the given equation

(b)B1: Deduces the correct value for b (Allow awrt 0.636 or exact $\frac{7}{11}$)M1: Correct strategy to find the value of a A1: Correct equation. Allow 5.68 or 5.69 for a .**(c)**

B1: Correct interpretation