Question	Scheme	Marks	AOs
3	$2^{5k+3}=3^{550} \Rightarrow (5k+3)\log 2 = 550\log 3$	M1	1.1b
	$\Rightarrow (5k+3)=\dfrac{550\log 3}{\log 2} \Rightarrow k=...$	dM1	2.1
	$\Rightarrow k=173.7$	A1	1.1b
		(3)	
			(3 marks)

Notes:

M1: Takes logs of both sides and applies the power law to both sides.

E.g. $2^{5k+3}=3^{550} \Rightarrow (5k+3)=550\log_2 3$. Condone a missing bracket.

The same base log must be applied to both sides, usually $\log=\log_{10}$, $\log_2$ or $\log_3$

dM1: Full and complete method to find the value of *k*.

The bracket must be present or working sufficient to imply its presence.

Correct **order** of operations to find *k*. So look for $(5k+3)=\dfrac{550\log 3}{\log 2} \Rightarrow 5k=\dfrac{550\log 3}{\log 2}\mp 3 \Rightarrow k=...$

A1: Awrt 173.7

Note the demand in the question. Trial and error and other such attempts are unlikely to score marks.