Exercise 1						Calc. : 🗸
A group of scientists decides to investigate a population of insects in a large field. It is found that						
the starting population 100 and that the population increases exponentially by 20% every week.						
Two students each write down a formula to model the population P at a time t , where t is the						
number of days since the start of the investigation:						
Formula A: $P(t) = 100t + 1.2$						
Formula B: $P(t) = 100 \cdot (1.2)^{t}$						
1. Explain why formula B is the correct formula and why formula A is incorrect.						2 marks
2. Calculate the number of insects after 2 weeks, to the nearest whole number.						2 marks
3. Copy and complete the table of values below, giving your answers to the nearest whole						e 2 marks
number:						
Number of days	5	10		15	20	
Population	0	10		10	20	
ropulation						
4. After how many days will the population exceed 4 600?						
v v	win the populat	tion exceed 4	6007			2 marks
U U	win the popula	tion exceed 4	600?			2 marks
Another group of scientis	ts investigates a	population of	of insects	in a differ	ent large field. The	2 marks y
Another group of scientis record their results in the	ts investigates a table below:	population of	of insects	in a differ	ent large field. The	y 2 marks
Another group of scientis record their results in the Number of days	ts investigates a table below:	population o	of insects of 10	in a differ	ent large field. The	2 marks y
Another group of scientis record their results in the Number of days Population	ts investigates a table below:	population of 5	600? of insects : 10 580	in a differ 15 820	ent large field. The $ \begin{array}{c c} \hline 20 \\ \hline 1 060 \\ \end{array} $	2 marks y
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Another group of scientis record their results in the Number of days Population 5. Explain why the resu 6. Use the information i	ts investigates a table below: 0 100 lts follow a linear n the table of variable variable of variable variab	population of 5 340 ar model.	of insects and the formation of the form	in a differ 15 820 ormula to :	ent large field. The 20 1 060 model the populatio	2 marks y 1 mark n 2 marks