Question			Answer	Mark	AO	Guidance
3	(a)	(i)	$\frac{20}{2}(2\times 3+19\times 1.5)$ $=345$	M1 A1 [2]	1.1 1.1	Use of formula for S_n with $n=20, a=3, d=1.5$ substituted. Allow one slip. May be implied by A1.
3	(a)	(ii)	$3+(n-1)\times 1.5=72$ $n=47$	M1 A1 [2]	3.1a 1.1	Allow **M1** for $3+n\times 1.5=72$ only if then corrected by ± 1. May be implied by A1.
3	(b)	(i)	-0.25	B1 [1]	1.1	oe e.g. $-\frac{1}{4}$
3	(b)	(ii)	-40	B1 [1]	1.1	
3	(b)	(iii)	$\frac{-40(1-(-0.25)^6)}{1-(-0.25)}$ $=-32.0$ (3 sf) or $-\frac{4095}{128}$ oe	M1 A1 [2]	1.1 1.1	Using their r from **(b)(i)** and their a from **(b)(ii)** in the correct formula for S_n. May be implied by A1 if no working is shown. NB common errors include: • $\frac{-40(1--0.25^6)}{1-(-0.25)}\Rightarrow -32.0$ (**M1A1BOD** unless -32.007 seen) • $\frac{-40(1+0.25^6)}{1-(-0.25)}$ or $\frac{-40(1+(-0.25)^6)}{1-(-0.25)}$ (Condone* **M1** only unless followed by fully correct answer -31.99 ... or $-\frac{4095}{128}$) • $S_\infty=\frac{-40}{1-(-0.25)}=-32$ **(M0A0)** Condone -32 www (Correct value is -31.99 ...) $-32(.0)$ with no method is 2/2 marks. Sight of -32.007 ... (answer from wrong working) is always **A0**. If one of the condoned* forms above used then allow recovery for **A1** iff -31.99 ... or $-\frac{4095}{128}$ is seen.