Find $\sum_{i=1}^{\infty} 3(0.84)^{i-1} = 3 + 3(0.84) + 3(0.84)^2 + 3(0.84)^3 + 3(0.84)^4 + \cdots$

$$\sum_{i=1}^{\infty} 3(0.84)^{i-1} = 3 + 3(0.84) + 3(0.84)^2 + 3(0.84)^3 + 3(0.84)^4 + \cdots = \frac{a}{1-r}$$, where $a = 3$ and $r = 0.84$.

So the sum is

$$\begin{aligned} \sum_{i=1}^{\infty} 3(0.84)^{i-1} &= 3 + 3(0.84) + 3(0.84)^2 + 3(0.84)^3 + 3(0.84)^4 + \cdots \\ &= \frac{3}{1-0.84} \\ &= \frac{3}{0.16} \\ &= 18.75 \end{aligned}$$

This matches the figure, which shows the sum of the series climbing higher and higher toward 18.75 as $n \to \infty$.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Term numbe	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	Term value	3	2.52	2.12	1.78	1.49	1.25	1.05	0.89	0.74	0.62	0.52	0.44	0.37	0.31	0.26	0.22
3	Series	3	5.52	7.64	9.41	10.91	12.16	13.22	14.1	14.85	15.47	16	16.44	16.81	17.12	17.38	17.6
4																	
5																	